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AMERICAN SAMOA TUNA LANDINGS COMPUTER PROGRAMS

Jerry L. Fuqua and Ann C. Todoki
Southwest Fisheries Center Honolulu Laboratory
National Marine Fisheries Service, NOAA
Honolulu, Hawaii 96822-2396

NOT FOR PUBLICATION

ADMINISTRATIVE REPORT H-88-7

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Southwest Fisheries Center Administrative Report H-88-7

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PREFACE

This report gives information on two computer programs created to summarize tuna data collected in American Samoa by the National Marine Fisheries Service, Southwest Fisheries Center Honolulu Laboratory. The first part of the report covers PSEIN, a program that summarizes data from purse seine landings and transshipment of tuna. The second part summarizes LONGLINE, a program that maps catch and effort for tuna caught by foreign longline vessels. Screen dumps and examples of output are included as figures, and program listings are included as appendixes.

The data for these report generators are confidential, but data reporting conventions are described in two internal reports by Fishery Biologist Gordon S. Yamasaki of the Honolulu Laboratory's American Samoa field station, and Biological Technician (Fisheries) Russell Y. Ito of the Honolulu Laboratory, and Victor A. Honda, currently of the Southwest Region Enforcement Office.

The programs were created by Dr. Jerry L. Fuqua (formerly with the Honolulu Laboratory and now with the Naval Ocean Systems Center in San Diego, California) and are an offshoot of his earlier work which involves mapping Hawaii. They are implemented for microcomputers with math co-processors. The documentation was completed, and the programs maintained, by Computer Programmer Ann C. Todoki of the Honolulu Laboratory. People interested in using these programs are encouraged to refer to the Fishery Management Research Program, Honolulu Laboratory, for more information.

Samuel G. Pooley
Industry Economist
Fishery Management
Research Program

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PSEIN: AMERICAN SAMOA PURSE SEINE REPORT GENERATOR

Introduction

The report-generating program PSEIN is written in dBASE III PLUS and offers the user a number of options for summarizing cannery landing and length-frequency statistics. With each option, the user may specify whether the report should produce statistics for any of four quarterly periods or for the entire year. For the cannery landing options, input files must be of the Southwest Fisheries Center Honolulu Laboratory Standard FL008AA2 type (Samoan Cannery Purse Seine and Transshipment Landings). For the length-frequency options, input files must be of the RP043AA1 type (Purse Seine Length Frequency). These files should be in ASCII form.

The available options for cannery landing reports are total cannery landing statistics and cannery landing statistics by United Nations Food and Agriculture Organization's (FAO) area fished. With either option, the results may be viewed on the screen or printed out. When printouts are desired, the user may select one of two report forms, confidential or public. The confidential form reports total tonnage and trips, in addition to catch per trip. The public form does not contain total tonnage and number of trips. In both cases, the statistics for purse seiner and transshipment landings are reported separately.

Options available for length-frequency reports are basic length statistics (average, minimum, and maximum sampling population) for total sampling population and sampling population by area, and length-frequency histogram figures for total sampling population and sampling population by area. With each option, the user may produce a printout or view results on the screen.

Program Execution

To execute PSEIN, the user must activate dBase III PLUS, usually by typing "dbase" and then pressing the carriage return key (<CR>). At the dBase III PLUS dot prompt, type "do psein" and press <CR>. The main PSEIN menu will appear (Fig. 1), listing the six report options available to the user. Cannery landing reports are generated through options 1 and 2, while length-frequency reports are generated through options 3-6. To exit PSEIN, the user may press the "x" key. Cannery landing reports are for the three species groups: skipjack tuna, Katsuwonus pelamis; yellowfin tuna, Thunnus albacares, and bigeye tuna, T. obesus; and albacore, T. alalunga, marlin, Tetrapturus spp., and others. Length-frequency reports are for the species skipjack, yellowfin, and bigeye tunas. The procedure for using each option is outlined below. In each case, after the user has pressed the appropriate key, a two-window system is displayed. The top window is the communication window, which is used for interaction between the program and the user. Filename prompts, report options, and program status are displayed on this portion of the screen. The lower window is the data display window, which is used to preview results. The program listing is shown in Appendix A.

Cannery Landing Reports

Option 1.—Cannery Landing Report (Confidential and Public)

PSEIN will initially prompt the user for the filename of the ASCII input file containing the raw, cannery landing data. The complete filename, including extension, should be entered along with the DOS path. An example of a file containing cannery landing data is FL008Y80.SDF. If the file cannot be found, a message to that effect is displayed, and the user is prompted to reenter the appropriate filename. Once the file is found, PSEIN will set up some temporary work files. This process is monitored through messages displayed in the communication window.

After the work files have been allocated and initiated, a report option menu (Fig. 2) will be displayed. The user may select any of four quarterly report options, the annual report option, or exit back to the main menu. As soon as a selection has been made, computations are initiated and continue as long as the "WORKING. . ." message appears on the screen. Upon completion of computations, the program asks whether output should be printed or displayed on the screen. If the print option is selected, the user is asked whether the confidential (full) report or the public (partial) report should be printed. Sample printouts (for the first quarter of 1980) of both reports are in Figure 3 (confidential) and Figure 4 (public). (Confidential data have been replaced by hypothetical numbers.) If the screen display option is selected, the first section of the confidential report appears in the data display window. The second section may be viewed by pressing any key. A subsequent key entry returns the user to the option menu. (Sample screen output is shown in Figure 5.)

Option 2.—Cannery Landing Report by Area (Confidential and Public)

This option follows the same procedure as option 1. Results are for purse seiners, categorized by FAO areas fished: 71A, 71B, 71, 77A, 77B, and 77. With the screen option in effect, the results for each area may be viewed sequentially. Sample printouts of the confidential and public reports for the first quarter of 1980 are in Figures 6 and 7, respectively. The corresponding screen displays are shown in Figure 8.

Length-Frequency Reports

In each of the four length-frequency options (options 3-6), the user is requested to give the filename of the ASCII input file, complete with extension and DOS path. The file must be of the RP043AA1 type, containing length measurements. As an example, a small demonstration file of this type named "MINI.SDF" will be used here. Once preliminary work files are set up, each option requests, through the option menu, a time period for which the length-frequency statistics are to be computed.

Option 3.—Length-Frequency Report

Active statistical computation is signaled by the "WORKING. . .(n)," where n is a descending integer. Statistical computations are complete

after it reaches 1. The resulting statistics specify the sample population, average length, standard deviation, and minimum and maximum lengths for skipjack, yellowfin, and bigeye tunas. The results may be printed out or viewed on the screen in the data display window, in a manner similar to that in options 1 and 2. Sample results from the MINI.SDF file for the first quarter of 1985 are in Figures 9 and 10.

Option 4.—Length-Frequency Report by Area

With this option, computations are the same as in option 3 but are categorized by FAO area. Six sets of length-frequency statistics are produced, one for each FAO area. Figure 11 shows the printout for the first quarter of 1985 for MINI.SDF, and Figure 12 shows the corresponding screen dumps.

Option 5.—Length-Frequency Histogram

This option produces histogram statistics for skipjack, yellowfin, and bigeye tunas. The number of fish found in partitioned intervals of 50 mm is reported for each species. The histogram range is 0-1,200 mm for skipjack tuna, 0-2,000 mm for yellowfin tuna, and 0-2,100 mm for bigeye tuna. Also reported is the total number of fish found outside the histogram ranges.

Computation is indicated by the "WORKING. . ." and "COUNTDOWN: (n)" messages. Here, n starts from the total number of records in the file and decreases to 1. A sample of a first quarter printout is in Figure 13, with the corresponding screen dumps shown in Figure 14.

Option 6.—Length-Frequency Histogram by Area

This option reports the same histogram statistics as option 5 but is broken down into six FAO areas. This option cycles through area computation; that is, area 71A statistics are computed and printed or viewed, then areas 71B, 71, 77A, 77B, and 77 follow sequentially. The user is prompted at each step for desired output (printout or screen dump), thereby allowing the printer to be free during computation. For each cycle, a message is displayed to indicate which area statistics are being computed. The "WORKING . . ." and "COUNTDOWN: (n)" messages are also displayed. Figure 15A-F displays the area printouts for the first quarter of 1985 for MINI.SDF. Figure 16 shows the corresponding screen dumps for area 71A. (The screen dumps for 71B, 71, 77A, 77B, and 77 would have a similar form.)

Note that the options 5 and 6 are I/O intensive and in dBase III PLUS, somewhat CPU intensive. Because the RP043AA1 files can be quite large, histogram reports may take a substantial amount of computer time. It is recommended that the files be transferred to a hard disk or Bernoulli[1] cartridge before processing is done.

---

[1]Reference to trades names does not imply endorsement by the National Marine Fisheries Service, NOAA.

LONGLINE: AMERICAN SAMOA LONGLINE CATCH AND EFFORT REPORT GENERATOR

Introduction

LONGLINE is a report-generating program used to produce files containing catch per unit effort (CPUE) information for various species of commercially caught fish. The program produces a single output array file containing a complete summary of CPUE information for 5° cells in the domain lat. 55°S-50°N, long. 100°W-130°E for 10 species. This file can be referenced at a later time for statistical information. In addition, 10 species-specific files are produced, summarizing the CPUE statistics for each species. Each of these files has the required format to be utilized with the Hawaiian Island Mapping Program (HIMP) (Fuqua 1987[2]) to produce graphic displays of CPUE for a given species and time period.

Program Execution

LONGLINE is an executable program, filename LONGLINE.EXE, compiled by using M.S. FORTRAN v.4.0. From the DOS prompt, the user can activate the program by entering "LONGLINE" and then pressing <CR>. After the program title appears, the user is prompted to supply an input filename, including extension, drive designation, and DOS path. The input file must be of the Honolulu Laboratory Standard FC003AA1 file type. The file FC003Y62.DAT will be used as an example of such a file. If the file is not found, the program will ask the user to reenter the filename. Once the file is found, the user is prompted for an output filename that has no more than eight characters and no extension. LONGLINE will produce 11 output files with this filename, but with 11 different extensions. It is recommended that the input name also be used as the output name. In our example, this would be FC003Y62 (see Fig. 17).

After the filenames have been specified, an option menu will appear (Fig. 18). Any of four quarterly reports or an annual report may be selected. An option is selected by entering the corresponding number and <CR>. LONGLINE responds by specifying the initial (mq1) and final (mq2) months. For example, if the first quarter is selected, mq1 = 1 and mq2 = 3. (The annual report would result in mq1 = 1 and mq2 = 12. The summer quarter would give mq1 = 7 and mq2 = 9.) LONGLINE will read in and process the input file data, then issue an "END OF FILE" message. Computation will continue, and output files will be produced until the "Stop--program terminated" message is issued. Control is then returned to DOS.

---

[2]Fuqua, J. L. 1987. Hawaiian Islands mapping program (HIMP). Southwest Fish. Cent. Honolulu Laboratory, Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96822-2396. Southwest Fish. Cent. Admin. Rep. H-87-20, 138 p.

Output File Protocol

The output array (ASCII) file will be designated with a nAY extension. Here, n = 1, 2, 3, 4, or A, corresponding to a first, second, third, or fourth quarter or to an annual report option. In our example, the output array for the spring quarter would be FC003Y62.3AY. The output array will contain a header giving the name of the original input file and the report period. The first section of data will be the total number of hooks set in each 5° cell. Cells start from the northwest and run east and south to the last cell in the southeast. The total area is 26 cells lateral and 21 vertical. A vertical index (j = 1, 21) is listed at the beginning of each record. Following the first section will be 10 consecutive species-specific groupings of data. Each group will consist of a catch data section and a CPUE data section. Preceding each group will be an introduction record giving the species name and the CPUE weighting factor (WT). For the first group, species equals "Albacore" and WT equals 100.0. Thus, a value of 3.05 in the CPUE section represents 3.05 albacore caught per 100 hooks, for all sets during the given period.

The species-specific (ASCII) output files will be designated with a nSP extension. Here, n = 1, 2, 3, 4, or A, following the same protocol for output array files. The two-letter code designating the species is SP. The species code designation is in Table 1.

Table 1.--The species code designations for extensions of the species-specific (ASCII) output filenames.

Species code	Species
al	Albacore
yf	Yellowfin tuna
be	Bigeye tuna
bf	Bluefin tuna
sj	Skipjack tuna
bm	Blue marlin
sm	Striped marlin
bb	Black marlin
sf	Sailfish
wa	Wahoo

These files will contain records listing the location of the center of a 5° cell and the corresponding weighted CPUE data. With each file, these records will be preceded by two records specifying the latitude (-55, 50 which equals 55°S-50°N) and absolute longitude (100, 230 which equals long. 100°W-130°E) ranges (see footnote 2). Latitudes and longitudes are given in degrees and fractions of degrees. These data are suitable for plotting onto a Pacific basin image by HIMP. An appropriate basin image is contained in the file PACIFIC.MAP, with the corresponding ASCII and binary digitized data in the files PACIFIC.DAT and PACIFIC.BIN, respectively. A typical CPUE map is in Figure 19.

Program Listing

The source code LONGLINE.FOR is included in Appendix B. If modifications are to be made, compilation with the M.S. FORTRAN 4.0 compiler must be made with the 4N+ option active. This allows for eight-character, variable names to be fully supported. The production of an executable file from the modified source file LONGLINE1.FOR would be initiated by the following command line:

```
FL /4N+ LONGLINE1.FOR .
```

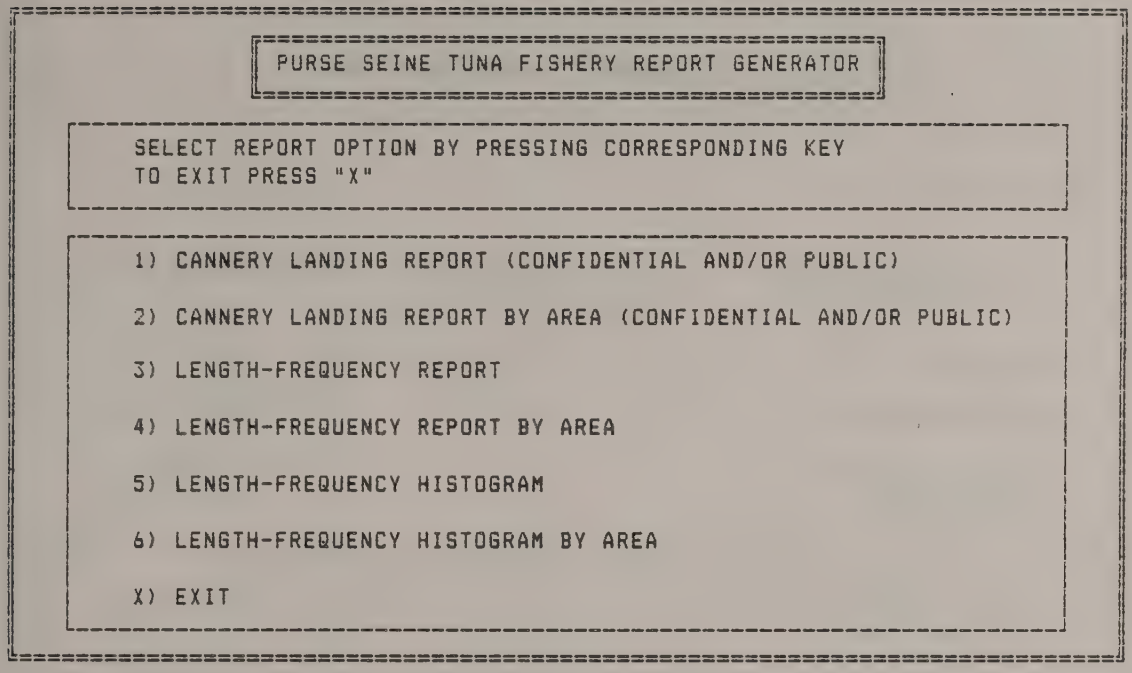
PURSE SEINE TUNA FISHERY REPORT GENERATOR
SELECT REPORT OPTION BY PRESSING CORRESPONDING KEY
TO EXIT PRESS "X"
1) CANNERY LANDING REPORT (CONFIDENTIAL AND/OR PUBLIC)
2) CANNERY LANDING REPORT BY AREA (CONFIDENTIAL AND/OR PUBLIC)
3) LENGTH-FREQUENCY REPORT
4) LENGTH-FREQUENCY REPORT BY AREA
5) LENGTH-FREQUENCY HISTOGRAM
6) LENGTH-FREQUENCY HISTOGRAM BY AREA
X) EXIT

Figure 1.--Main PSEIN menu.

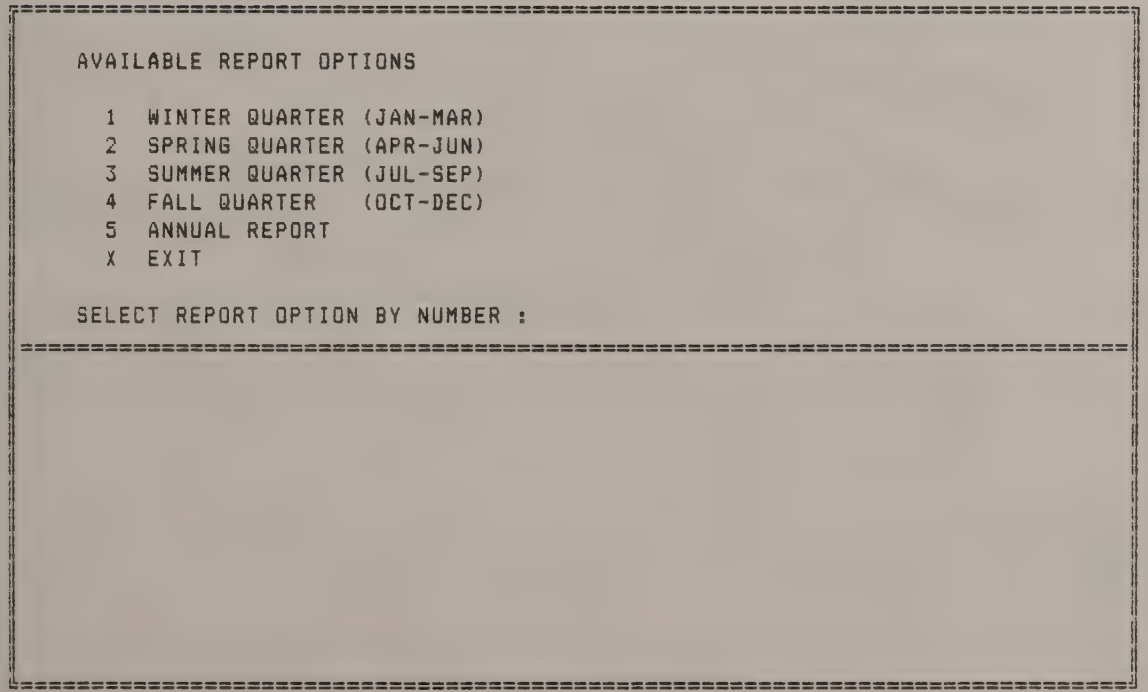

Figure 2.--Report option menu displayed in the communication window. Data display window blank.

CANNERY PURSE SEINE / TRANSSHIPMENT REPORT

JANUARY-MARCH 1980

PURSE SEINE LANDINGS	METRIC TONS LANDED (CONFIDENTIAL)	AVG WEIGHT/TRIP
SKIPJACK	3,972	441
YELLOWFIN/BIGEYE	2,152	269
ALBACORE, MARLIN AND OTHERS	0	0

TOTAL TRIPS: 10 TOTAL VESSELS: 10

TRANSSHIPMENT LANDINGS	METRIC TONS LANDED (CONFIDENTIAL)	AVG WEIGHT/TRIP
SKIPJACK	1,445	144
YELLOWFIN/BIGEYE	336	56
ALBACORE, MARLIN AND OTHERS	0	0

TOTAL TRIPS: 11 TOTAL VESSELS: 5

Figure 3.--Sample printout of a confidential report on cannery landings.

CANNERY PURSE SEINE / TRANSSHIPMENT REPORT

JANUARY-MARCH 1980

PURSE SEINE LANDINGS	AVG WEIGHT/TRIP (METRIC TONS)
SKIPJACK	441
YELLOWFIN/BIGEYE	269
ALBACORE, MARLIN AND OTHERS	0

TRANSSHIPMENT LANDINGS	AVG WEIGHT/TRIP (METRIC TONS)
SKIPJACK	144
YELLOWFIN/BIGEYE	56
ALBACORE, MARLIN AND OTHERS	0

Figure 4.--Sample printout of a public report on cannery landings.

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

CANNERY PURSE SEINE / TRANSSHIPMENT REPORT

JANUARY-MARCH 1980

PURSE SEINE LANDINGS	METRIC TONS LANDED (CONFIDENTIAL)	AVG WEIGHT/TRIP
SKIPJACK	3,972	441
YELLOWFIN/BIGEYE	2,152	269
ALBACORE, MARLIN AND OTHERS	0	0

TOTAL TRIPS: 10 TOTAL VESSELS: 10

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

TRANSSHIPMENT LANDINGS	METRIC TONS LANDED (CONFIDENTIAL)	AVG WEIGHT/TRIP
SKIPJACK	1,445	144
YELLOWFIN/BIGEYE	336	56
ALBACORE, MARLIN AND OTHERS	0	0

TOTAL TRIPS: 11 TOTAL VESSELS: 5

Figure 5.--Cannery landings screen displays: a) first display with purse seine statistics and b) second display with transshipment statistics. Displays viewed sequentially in the data display window.

CANNERY PURSE SEINE REPORT BY AREA

JANUARY-MARCH 1980

PURSE SEINE LANDINGS	METRIC TONS LANDED (CONFIDENTIAL)	
AREA: 71A		
SKIPJACK	0	0
YELLOWFIN/BIGEYE	0	0
ALBACORE, MARLIN AND OTHERS	0	0
TOTAL TRIPS: 0	TOTAL VESSELS:	0
AREA: 71B		
SKIPJACK	0	0
YELLOWFIN/BIGEYE	0	0
ALBACORE, MARLIN AND OTHERS	0	0
TOTAL TRIPS: 0	TOTAL VESSELS:	0
AREA: 71		
SKIPJACK	0	0
YELLOWFIN/BIGEYE	0	0
ALBACORE, MARLIN AND OTHERS	0	0
TOTAL TRIPS: 0	TOTAL VESSELS:	0

Figure 6.--Sample printout of a confidential report on cannery landing results for purse seiners by the United Nations Food and Agriculture Organization area.

AREA: 77A

SKIPJACK	0	0
YELLOWFIN/BIGEYE	0	0
ALBACORE, MARLIN AND OTHERS	0	0

TOTAL TRIPS: 0 TOTAL VESSELS: 0

AREA: 77B

SKIPJACK	0	0
YELLOWFIN/BIGEYE	0	0
ALBACORE, MARLIN AND OTHERS	0	0

TOTAL TRIPS: 0 TOTAL VESSELS: 0

AREA: 77

SKIPJACK	0	0
YELLOWFIN/BIGEYE	0	0
ALBACORE, MARLIN AND OTHERS	0	0

TOTAL TRIPS: 0 TOTAL VESSELS: 0

Figure 6.--Continued.

CANNERY PURSE SEINE REPORT BY AREA

JANUARY-MARCH 1980

PURSE SEINE LANDINGS	AVG WEIGHT/TRIP (METRIC TONS)
AREA: 71A	
SKIPJACK	0
YELLOWFIN/BIGEYE	0
ALBACORE, MARLIN AND OTHERS	0
AREA: 71B	
SKIPJACK	0
YELLOWFIN/BIGEYE	0
ALBACORE, MARLIN AND OTHERS	0
AREA: 71	
SKIPJACK	0
YELLOWFIN/BIGEYE	0
ALBACORE, MARLIN AND OTHERS	0

Figure 7.--Sample printout of a public report on cannery landing results for purse seiners by the United Nations Food and Agriculture Organization area.

AREA: 77A	
SKIPJACK	0
YELLOWFIN/BIGEYE	0
ALBACORE, MARLIN AND OTHERS	0
AREA: 77B	
SKIPJACK	0
YELLOWFIN/BIGEYE	0
ALBACORE, MARLIN AND OTHERS	0
AREA: 77	
SKIPJACK	0
YELLOWFIN/BIGEYE	0
ALBACORE, MARLIN AND OTHERS	0

Figure 7.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

```
              CANNERY PURSE SEINE LANDINGS REPORT BY AREA
JANUARY-MARCH  1980                              AREA: 71A
  PURSE SEINE LANDINGS       METRIC TONS LANDED      AVG WEIGHT/TRIP
                               (CONFIDENTIAL)
  SKIPJACK                            0                      0
  YELLOWFIN/BIGEYE                    0                      0
  ALBACORE, MARLIN                    0                      0
    AND OTHERS
        TOTAL TRIPS:       0          TOTAL VESSELS:       0
```

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

```
              CANNERY PURSE SEINE LANDINGS REPORT BY AREA
JANUARY-MARCH  1980                              AREA: 71B
  PURSE SEINE LANDINGS       METRIC TONS LANDED      AVG WEIGHT/TRIP
                               (CONFIDENTIAL)
  SKIPJACK                            0                      0
  YELLOWFIN/BIGEYE                    0                      0
  ALBACORE, MARLIN                    0                      0
    AND OTHERS
        TOTAL TRIPS:       0          TOTAL VESSELS:       0
```

Figure 8.--Successive data window displays for cannery landings of purse seiners by the United Nations Food and Agriculture Organization area.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

```
                CANNERY PURSE SEINE LANDINGS REPORT BY AREA
JANUARY-MARCH  1980                              AREA 71
  PURSE SEINE LANDINGS       METRIC TONS LANDED      AVG WEIGHT/TRIP
                               (CONFIDENTIAL)
  SKIPJACK                              0                    0
  YELLOWFIN/BIGEYE                      0                    0
  ALBACORE, MARLIN                      0                    0
    AND OTHERS
        TOTAL TRIPS:       0          TOTAL VESSELS:        0
```

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

```
                CANNERY PURSE SEINE LANDINGS REPORT BY AREA
JANUARY-MARCH  1980                              AREA 77A
  PURSE SEINE LANDINGS       METRIC TONS LANDED      AVG WEIGHT/TRIP
                               (CONFIDENTIAL)
  SKIPJACK                              0                    0
  YELLOWFIN/BIGEYE                      0                    0
  ALBACORE, MARLIN                      0                    0
    AND OTHERS
        TOTAL TRIPS:       0          TOTAL VESSELS:        0
```

Figure 8.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

```
                CANNERY PURSE SEINE LANDINGS REPORT BY AREA
JANUARY-MARCH  1980                              AREA 77B
  PURSE SEINE LANDINGS        METRIC TONS LANDED      AVG WEIGHT/TRIP
                                (CONFIDENTIAL)
  SKIPJACK                              0                      0
  YELLOWFIN/BIGEYE                      0                      0
  ALBACORE, MARLIN                      0                      0
    AND OTHERS
        TOTAL TRIPS:       0          TOTAL VESSELS:       0
```

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

```
                CANNERY PURSE SEINE LANDINGS REPORT BY AREA
JANUARY-MARCH  1980                              AREA 77
  PURSE SEINE LANDINGS        METRIC TONS LANDED      AVG WEIGHT/TRIP
                                (CONFIDENTIAL)
  SKIPJACK                              0                      0
  YELLOWFIN/BIGEYE                      0                      0
  ALBACORE, MARLIN                      0                      0
    AND OTHERS
        TOTAL TRIPS:       0          TOTAL VESSELS:       0
```

Figure 8.--Continued.

PURSE SEINE LENGTH-FREQUENCY REPORT

JANUARY-MARCH 1985 (MEASUREMENTS IN MM)

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	10	575.00	30.78	521.00	629.00
YELLOWFIN	10	716.00	158.58	540.00	1139.00
BIGEYE	3	737.00	155.67	559.00	846.00

Figure 9.--Sample printout for length-frequency file MINI.SDF.

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY REPORT

JANUARY-MARCH 1985 (MEASUREMENTS IN MM)

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	10	575.00	30.78	521.00	629.00
YELLOWFIN	10	716.00	158.58	540.00	1139.00
BIGEYE	3	737.00	155.67	559.00	846.00

Figure 10.--Sample screen dump of the length-frequency file MINI.SDF.

PURSE SEINE LENGTH-FREQUENCY REPORT

JANUARY-MARCH 1985 (MEASUREMENTS IN MM)

AREA: 71A

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

AREA: 71B

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	10	575.00	30.78	521.00	629.00
YELLOWFIN	10	716.00	158.58	540.00	1139.00
BIGEYE	3	737.00	155.67	559.00	846.00

AREA: 71

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

AREA: 77A

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

AREA: 77B

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

Figure 11.--Sample of a length-frequency statistical printout by the United Nations Food and Agriculture Organization area for the file MINI.SDF.

AREA 77

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY REPORT BY AREA

JANUARY-MARCH 1985 AREA: 71A (MEASUREMENTS IN MM)

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY REPORT BY AREA

JANUARY-MARCH 1985 AREA: 71B

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	10	575.00	30.78	521.00	629.00
YELLOWFIN	10	716.00	158.58	540.00	1139.00
BIGEYE	3	737.00	155.67	559.00	846.00

Figure 12.--Sample screen dumps of the length-frequency statistical file MINI.SDF by the United Nations Food and Agriculture Organization area.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

   PRESS ANY KEY TO CONTINUE
```

PURSE SEINE LENGTH-FREQUENCY REPORT BY AREA

JANUARY-MARCH 1985 AREA: 71

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

   PRESS ANY KEY TO CONTINUE
```

PURSE SEINE LENGTH-FREQUENCY REPORT BY AREA

JANUARY-MARCH 1985 AREA: 77A

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

Figure 12.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

PURSE SEINE LENGTH-FREQUENCY REPORT BY AREA

JANUARY-MARCH 1985 AREA: 77B

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

PURSE SEINE LENGTH-FREQUENCY REPORT BY AREA

JANUARY-MARCH 1985 AREA: 77

SPECIES	N	AVERAGE	S D	MIN	MAX
SKIPJACK	0	0.00	0.00	0.00	0.00
YELLOWFIN	0	0.00	0.00	0.00	0.00
BIGEYE	0	0.00	0.00	0.00	0.00

Figure 12.--Continued.

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT

JANUARY-MARCH 1985

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0
500- 550	2	1	0
550- 600	7	0	1
600- 650	1	1	0
650- 700	0	6	0
700- 750	0	0	0
750- 800	0	1	0
800- 850	0	0	2
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0
1000-1050	0	0	0
1050-1100	0	0	0
1100-1150	0	1	0
1150-1200	0	0	0
1200-1250	/////	0	0
1250-1300		0	0
1300-1350		0	0
1350-1400		0	0
1400-1450		0	0
1450-1500		0	0
1500-1550		0	0
1550-1600		0	0
1600-1650		0	0
1650-1700		0	0
1700-1750		0	0
1750-1800		0	0
1800-1850		0	0
1850-1900		0	0
1900-1950		0	0
1950-2000		0	0
2000-2050		/////	0
2050-2100			0
OUTSIDE RANGE	0	0	0
TOTAL	10	10	3

Figure 13.--Sample of a histogram printout for the file MINI.SDF.

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH 1985

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH 1985

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0

Figure 14.--Histogram screen dumps for the file MINI.SDF.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH 1985

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
500- 550	2	1	0
550- 600	7	0	1
600- 650	1	1	0
650- 700	0	6	0
700- 750	0	0	0

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH 1985

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
750- 800	0	1	0
800- 850	0	0	2
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0

Figure 14.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

```
    PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH  1985
  PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEYE

    1000-1050              0             0              0
    1050-1100              0             0              0
    1100-1150              0             1              0
    1150-1200              0             0              0
    1200-1250          /////             0              0
```

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

```
    PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH  1985
  PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEYE

    1250-1300                            0              0
    1300-1350                            0              0
    1350-1400                            0              0
    1400-1450                            0              0
    1450-1500                            0              0
```

Figure 14.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

        PRESS ANY KEY TO CONTINUE
```

```
        PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH  1985
  PARTITION (MM)          SKIPJACK        YELLOWFIN         BIGEYE

     1500-1550                                0                0
     1550-1600                                0                0
     1600-1650                                0                0
     1650-1700                                0                0
     1700-1750                                0                0
```

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

        PRESS ANY KEY TO CONTINUE
```

```
        PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH  1985
  PARTITION (MM)          SKIPJACK        YELLOWFIN         BIGEYE

     1750-1800                                0                0
     1800-1850                                0                0
     1850-1900                                0                0
     1900-1950                                0                0
     1950-2000                                0                0
```

Figure 14.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)



   PRESS ANY KEY TO CONTINUE
```

```
   PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH  1985
  PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEYE

    2000-2050                          /////             0
    2050-2100                                            0

     OUTSIDE                0             0              0
      RANGE
```

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)



   PRESS ANY KEY TO CONTINUE
```

```
   PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT
JANUARY-MARCH  1985
  PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEYE


      TOTAL                 10             10              3
```

Figure 14.--Continued.

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA

JANUARY-MARCH 1985 AREA: 71A

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0
500- 550	0	0	0
550- 600	0	0	0
600- 650	0	0	0
650- 700	0	0	0
700- 750	0	0	0
750- 800	0	0	0
800- 850	0	0	0
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0
1000-1050	0	0	0
1050-1100	0	0	0
1100-1150	0	0	0
1150-1200	0	0	0
1200-1250	/////	0	0
1250-1300		0	0
1300-1350		0	0
1350-1400		0	0
1400-1450		0	0
1450-1500		0	0
1500-1550		0	0
1550-1600		0	0
1600-1650		0	0
1650-1700		0	0
1700-1750		0	0
1750-1800		0	0
1800-1850		0	0
1850-1900		0	0
1900-1950		0	0
1950-2000		0	0
2000-2050		/////	0
2050-2100			0
OUTSIDE RANGE	0	0	0
TOTAL	0	0	0

Figure 15.--Sample of a histogram printout for the file MINI.SDF by the United Nations Food and Agriculture Organization area. A) area 71A.

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA

JANUARY-MARCH 1985 AREA: 71B

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0
500- 550	2	1	0
550- 600	7	0	1
600- 650	1	1	0
650- 700	0	6	0
700- 750	0	0	0
750- 800	0	1	0
800- 850	0	0	2
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0
1000-1050	0	0	0
1050-1100	0	0	0
1100-1150	0	1	0
1150-1200	0	0	0
1200-1250	/////	0	0
1250-1300		0	0
1300-1350		0	0
1350-1400		0	0
1400-1450		0	0
1450-1500		0	0
1500-1550		0	0
1550-1600		0	0
1600-1650		0	0
1650-1700		0	0
1700-1750		0	0
1750-1800		0	0
1800-1850		0	0
1850-1900		0	0
1900-1950		0	0
1950-2000		0	0
2000-2050		/////	0
2050-2100			0
OUTSIDE RANGE	0	0	0
TOTAL	10	10	3

Figure 15.--Continued. B) area 71B.

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA

JANUARY-MARCH 1985 AREA: 71

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0
500- 550	0	0	0
550- 600	0	0	0
600- 650	0	0	0
650- 700	0	0	0
700- 750	0	0	0
750- 800	0	0	0
800- 850	0	0	0
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0
1000-1050	0	0	0
1050-1100	0	0	0
1100-1150	0	0	0
1150-1200	0	0	0
1200-1250	/////	0	0
1250-1300		0	0
1300-1350		0	0
1350-1400		0	0
1400-1450		0	0
1450-1500		0	0
1500-1550		0	0
1550-1600		0	0
1600-1650		0	0
1650-1700		0	0
1700-1750		0	0
1750-1800		0	0
1800-1850		0	0
1850-1900		0	0
1900-1950		0	0
1950-2000		0	0
2000-2050		/////	0
2050-2100			0
OUTSIDE RANGE	0	0	0
TOTAL	0	0	0

Figure 15.--Continued. Area 71.

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA

JANUARY-MARCH 1985 AREA: 77A

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0
500- 550	0	0	0
550- 600	0	0	0
600- 650	0	0	0
650- 700	0	0	0
700- 750	0	0	0
750- 800	0	0	0
800- 850	0	0	0
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0
1000-1050	0	0	0
1050-1100	0	0	0
1100-1150	0	0	0
1150-1200	0	0	0
1200-1250	/////	0	0
1250-1300		0	0
1300-1350		0	0
1350-1400		0	0
1400-1450		0	0
1450-1500		0	0
1500-1550		0	0
1550-1600		0	0
1600-1650		0	0
1650-1700		0	0
1700-1750		0	0
1750-1800		0	0
1800-1850		0	0
1850-1900		0	0
1900-1950		0	0
1950-2000		0	0
2000-2050		/////	0
2050-2100			0
OUTSIDE RANGE	0	0	0
TOTAL	0	0	0

Figure 15.--Continued. D) area 77A.

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA

JANUARY-MARCH 1985 AREA: 77B

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0
500- 550	0	0	0
550- 600	0	0	0
600- 650	0	0	0
650- 700	0	0	0
700- 750	0	0	0
750- 800	0	0	0
800- 850	0	0	0
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0
1000-1050	0	0	0
1050-1100	0	0	0
1100-1150	0	0	0
1150-1200	0	0	0
1200-1250	/////	0	0
1250-1300		0	0
1300-1350		0	0
1350-1400		0	0
1400-1450		0	0
1450-1500		0	0
1500-1550		0	0
1550-1600		0	0
1600-1650		0	0
1650-1700		0	0
1700-1750		0	0
1750-1800		0	0
1800-1850		0	0
1850-1900		0	0
1900-1950		0	0
1950-2000		0	0
2000-2050		/////	0
2050-2100			0
OUTSIDE RANGE	0	0	0
TOTAL	0	0	0

Figure 15.--Continued. E) area 77B.

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA

JANUARY-MARCH 1985 AREA: 77

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0
500- 550	0	0	0
550- 600	0	0	0
600- 650	0	0	0
650- 700	0	0	0
700- 750	0	0	0
750- 800	0	0	0
800- 850	0	0	0
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0
1000-1050	0	0	0
1050-1100	0	0	0
1100-1150	0	0	0
1150-1200	0	0	0
1200-1250	/////	0	0
1250-1300		0	0
1300-1350		0	0
1350-1400		0	0
1400-1450		0	0
1450-1500		0	0
1500-1550		0	0
1550-1600		0	0
1600-1650		0	0
1650-1700		0	0
1700-1750		0	0
1750-1800		0	0
1800-1850		0	0
1850-1900		0	0
1900-1950		0	0
1950-2000		0	0
2000-2050		/////	0
2050-2100			0
OUTSIDE RANGE	0	0	0
TOTAL	0	0	0

Figure 15.--Continued. F) area 77.

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA
JANUARY-MARCH 1985 AREA: 71A

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
0- 50	0	0	0
50- 100	0	0	0
100- 150	0	0	0
150- 200	0	0	0
200- 250	0	0	0

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA
JANUARY-MARCH 1985 AREA: 71A

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
250- 300	0	0	0
300- 350	0	0	0
350- 400	0	0	0
400- 450	0	0	0
450- 500	0	0	0

Figure 16.--Sample of screen dumps for area 71A for the file MINI.SDF.

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA
JANUARY-MARCH 1985 AREA: 71A

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
500- 550	0	0	0
550- 600	0	0	0
600- 650	0	0	0
650- 700	0	0	0
700- 750	0	0	0

DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA
JANUARY-MARCH 1985 AREA: 71A

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
750- 800	0	0	0
800- 850	0	0	0
850- 900	0	0	0
900- 950	0	0	0
950-1000	0	0	0

Figure 16.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA

JANUARY-MARCH 1985 AREA: 71A

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
1000-1050	0	0	0
1050-1100	0	0	0
1100-1150	0	0	0
1150-1200	0	0	0
1200-1250	/////	0	0

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

    PRESS ANY KEY TO CONTINUE
```

PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA

JANUARY-MARCH 1985 AREA: 71A

PARTITION (MM)	SKIPJACK	YELLOWFIN	BIGEYE
1250-1300		0	0
1300-1350		0	0
1350-1400		0	0
1400-1450		0	0
1450-1500		0	0

Figure 16.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE
```

```
PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA
JANUARY-MARCH  1985                              AREA: 71A
  PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEYE

    1500-1550                             0              0
    1550-1600                             0              0
    1600-1650                             0              0
    1650-1700                             0              0
    1700-1750                             0              0
```

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)

PRESS ANY KEY TO CONTINUE
```

```
PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA
JANUARY-MARCH  1985                              AREA: 71A
  PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEYE

    1750-1800                             0              0
    1800-1850                             0              0
    1850-1900                             0              0
    1900-1950                             0              0
    1950-2000                             0              0
```

Figure 16.--Continued.

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)



    PRESS ANY KEY TO CONTINUE
```

```
    PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA
JANUARY-MARCH  1985                          AREA: 71A
  PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEYE

    2000-2050                          /////              0
    2050-2100                                             0

     OUTSIDE                  0             0             0
      RANGE
```

```
DO YOU WANT THE OUTPUT SENT TO THE PRINTER OR THE SCREEN? (P/S) s
(WARNING : PRINTER MUST BE READY FOR OPTION P.)



    PRESS ANY KEY TO CONTINUE
```

```
    PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA
JANUARY-MARCH  1985                          AREA: 71A
  PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEYE


      TOTAL                  0             0             0
```

Figure 16.--Continued.

```
SAMOAN LONGLINE CATCH AND EFFORT REPORT GENERATOR
     NATIONAL MARINE FISHERIES SERVICE, NOAA

ENTER NAME OF FILE TO BE PROCESSED--
(SPECIFY COMPLETE NAME, INCLUDING DRIVE AND DOS PATH)
ENTER NAME:FC003Y62.DAT
ENTER OUTPUT FILENAME (UP TO 8 CHARACTERS):  FC003Y62
```

Figure 17.--Sample of input and output filenames for LONGLINE.

```
REPORT OPTIONS:

    (1) JANUARY-MARCH

    (2) APRIL-JUNE

    (3) JULY-SEPTEMBER

    (4) OCTOBER-DECEMBER

    (5) ANNUAL REPORT

SELECT OPTION NUMBER + RETURN :
```

Figure 18.--Report option menu for LONGLINE.

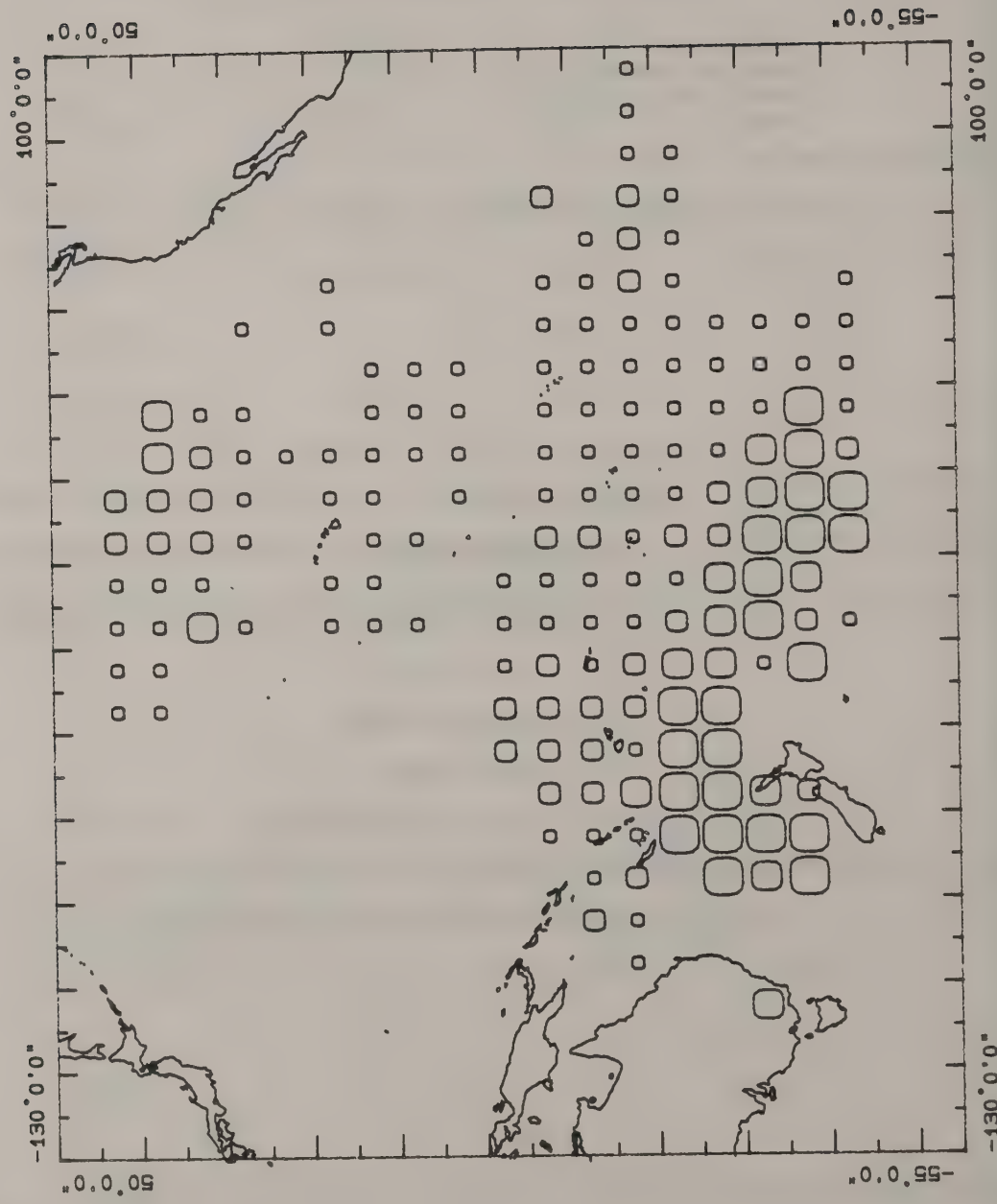

Figure 19.--Sample of a typical catch per unit effort map.

APPENDIXES

APPENDIX A

```
*PSEIN*
* close all open files
CLEAR ALL
* set working environment
SET DELETED ON
SET ECHO OFF
SET TALK OFF
SET HEADING OFF
SET HELP OFF
SET MENU OFF
SET SAFETY OFF
SET STATUS OFF
*SET ESCAPE OFF
*SET BELL OFF
*SET SCOREBOARD OFF
*
DO WHILE .T.
    CLEAR
    DO PSMENU
    mopt = " "
    do while .not. mopt$"123456Xx"
        mopt = " "
        @ 22,69 get mopt
        read
    enddo
    DO CASE
        CASE mopt = "1"
            DO CANN
        CASE mopt = "2"
            DO CANNA
        CASE mopt = "3"
            DO LENGTH
        CASE mopt = "4"
            DO LENGTHA
        CASE mopt = "5"
            DO HISTO
        CASE mopt = "6"
            DO HISTOA
        CASE mopt$"Xx"
            CLEAR
            CLEAR ALL
            SET TALK ON
            SET HEADING ON
            SET HELP ON
            SET MENU ON
            SET SAFETY ON
            SET STATUS ON
            RETURN
    ENDCASE
ENDDO
RETURN
```

```
*PSMENU*
*MENU SCREEN FOR PURSE SEINE TUNA FISHERY REPORT GENERATOR
@ 1,1 to 24,79 double
@ 2,18 to 4,62 double
@ 3,20 say 'PURSE SEINE TUNA FISHERY REPORT GENERATOR'
@ 5,5 to 8,75
@ 6,10 say 'SELECT REPORT OPTION BY PRESSING CORRESPONDING KEY'
@ 7,10 say 'TO EXIT PRESS "X" '
@ 9,5 to 23,75
@ 10,10 say '1) CANNERY LANDING REPORT (CONFIDENTIAL AND/OR PUBLIC)'
@ 12,10 say '2) CANNERY LANDING REPORT BY AREA (CONFIDENTIAL AND/OR PUBLIC)'
@ 14,10 say '3) LENGTH-FREQUENCY REPORT'
@ 16,10 say '4) LENGTH-FREQUENCY REPORT BY AREA'
@ 18,10 say '5) LENGTH-FREQUENCY HISTOGRAM'
@ 20,10 say '6) LENGTH-FREQUENCY HISTOGRAM BY AREA'
@ 22,10 say 'X) EXIT'
return
* E O P
```

```
*CANN*
*
*****************************************************************
*MODULE TO PRODUCE CONFIDENTIAL AND/OR PUBLIC REPORTS OF CANNERY
*LANDINGS FOR PURSE SEINE AND TRANSSHIPMENT VESSELS. REPORT
*OPTIONS ARE FOR ANY OF FOUR QUARTERS OR FOR AN ENTIRE YEAR
*(ANNUAL). DBF FILES USED TO PRODUCE REPORTS ARE AS FOLLOWS:
*
*  FL.DBF      DB VERSION OF ENTIRE INPUT FILE
*  FLST.DBF    FL STRUCTURE FILE, WITH THE FOLLOWING FIELDS:
*
*                DSN          DATA SET NAME (FL008AA2)  8
*                CC           CANNERY CODE              1
*                VN           VESSEL NAME              20
*                YY           YEAR                      2
*                MM           MONTH                     2
*                DD           DAY                       2
*                FAO          CAPTURE AREA CODE         3
*                CA           CAPTURE AREA NAME        20
*                VT           VESSEL TYPE               2
*                NA           NATION                    2
*                SJ           SKIPJACK (LBS.)           8
*                YF           YELLOWFIN (LBS.)          8
*                BE           BIGEYE (LBS.)             8
*                AC           ALBACORE (LBS.)           8
*                ML           MARLIN (LBS.)             8
*                MX           MIXED (LBS.)              8
*                BLANK        BLANK FIELD               6
*                BATCH        BATCH NUMBER              6
*                SEQNUM       SEQUENCE NUMBER           8
*
*  CPST.DBF    FL SUBFILE CONTAINING ONLY FIELDS USED FOR THE
*              FINAL REPORTS
*  CPSTST.DBF  CPST STRUCTURE FILE
*                 (YY,MM,DD,FAO,VT,NA,SJ,YF,BE,AC,ML,MX)
*  CPST1.DBF   CPST SUBFILE USED TO PRODUCE FINAL REPORTS.
*              WILL CONTAIN ONE OF FOUR QUARTERS OR ELSE
*              ENTIRE YEAR OF CPST DATA.
*  VESSELS.DBF TEMPORARY SORT FILE FOR DETERMINING NUMBER OF
*              SEINERS FOR THE REPORT PERIOD
*  VESSELT.DBF TEMPORARY SORT FILE FOR DETERMINING NUMBER OF
*              TRANSHIPMENT VESSELS FOR REPORT PERIOD
*****************************************************************
clear
@ 0,0 to 24,79 double
@ 12,1 to 12,78 double
eras cpst1.dbf
eras vessels.dbf
eras vesselt.dbf
@ 2,2 say 'CANNERY PURSE SEINE / TRANSSHIPMENT REPORT'
@ 3,2 say 'EXTERNAL (ASCII) FILE SPECIFICATION SHOULD CONTAIN
PATH AND EXTENSION'
```

```
fn = space(20)
@ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
read
store ltrim(trim(fn)) to fnl
use fl
do while len(fnl) > 0
    if file(fnl)
        @ 1,1 clear to 11,78
        @ 13,1 clear to 13,78
        @ 2,60 say 'WORKING ...'
        append from &fnl sdf      && APPENDING FROM ASCII FILE
        exit
    else
        @ 1,1 clear to 11,78
        @ 13,1 clear to 23,78
        @ 3,2 say 'FILE ' + fnl + ' NOT FOUND'
        @ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
        read
        store ltrim(trim(fn)) to fnl
    endif
enddo
store YY to year
@ 2,2 say 'TEMPORARY FILE FL.DBF IN USE'
use cpst
delete all              && CLEAR FILE FOR NEXT TIME
pack
append from fl
@ 2,2 say 'PURSE SEINE / TRANSSHIPMENT DBASE FILE CREATED'
use fl
delete all              && CLEAR FILE FOR NEXT TIME
pack
@ 2,2 say 'TEMPORARY FILE FL.DBF CLEARED                '
* 1,1 clear to 11,78
* 13,1 clear to 23,78
doflag = 1
do while doflag = 1
opt = space(1)
use cpst
@ 1,1 clear to 11,78
@ 13,1 clear to 23,78
@ 2,5 say 'AVAILABLE REPORT OPTIONS'
@ 4,5 say '  1  WINTER QUARTER (JAN-MAR)'
@ 5,5 say '  2  SPRING QUARTER (APR-JUN)'
@ 6,5 say '  3  SUMMER QUARTER (JUL-SEP)'
@ 7,5 say '  4  FALL QUARTER   (OCT-DEC)'
@ 8,5 say '  5  ANNUAL REPORT '
@ 9,5 say '  X  EXIT '

do while .not. opt$'12345Xx'
    @ 11,5 say 'SELECT REPORT OPTION BY NUMBER : ' get opt
    read
enddo
```

```
@ 2,60 say 'WORKING ...'
do case
    case opt = '1'
        copy to cpstl for val(MM) >= 1 .and. val(MM) <= 3
    case opt = '2'
        copy to cpstl for val(MM) >= 4 .and. val(MM) <= 6
    case opt = '3'
        copy to cpstl for val(MM) >= 7 .and. val(MM) <= 9
    case opt = '4'
        copy to cpstl for val(MM) >= 10 .and. val(MM) <= 12
    case opt = '5'
        copy to cpstl
    case opt$'Xx'
        doflag = 0
        exit
endcase
        use cpstl
        sum SJ, YF + BE, AC + ML + MX to TSSJ, TSYFBE, TSOTHER
            for VT = 'SE'
        TSSJ = TSSJ/2204.6
        TSYFBE = TSYFBE/2204.6
        TSOTHER = TSOTHER/2204.6
        sum SJ, YF + BE, AC + ML + MX to TTSJ, TTYFBE, TTOTHER
            for VT = 'TR'
        TTSJ = TTSJ/2204.6
        TTYFBE = TTYFBE/2204.6
        TTOTHER = TTOTHER/2204.6
        average SJ to ASSJ for VT = 'SE' .and. SJ > 0
        ASSJ = ASSJ/2204.6
        average YF + BE to ASYFBE for VT = 'SE' .and. (YF > 0
            .or. BE > 0)
        ASYFBE = ASYFBE/2204.6
        average AC + ML + MX to ASOTHER for VT = 'SE' .and.
            (AC > 0 .or. ML > 0 .or. MX > 0)
        ASOTHER = ASOTHER/2204.6
        average SJ to ATSJ for VT = 'TR' .and. SJ > 0
        ATSJ = ATSJ/2204.6
        average YF + BE to ATYFBE for VT = 'TR' .and. (YF > 0
            .or. BE > 0)
        ATYFBE = ATYFBE/2204.6
        average AC + ML + MX to ATOTHER for VT = 'TR' .and.
            (AC > 0 .or. ML > 0 .or. MX > 0)
        ATOTHER = ATOTHER/2204.6
        count to TST for VT = 'SE'
        count to TTT for VT = 'TR'
        sort to vesselS on VN for VT = 'SE'
        sort to vesselT on VN for VT = 'TR'
        n = 0
      if TST > 0
        use vesselS
        name = VN
        skip
```

```
        do while .not. EOF()
            if name = VN
                n = n + 1
            else
                name = VN
            endif
            skip
        enddo
      endif
        TSV = TST - n
        use
        erase vessel5.dbf
        n = 0
      if TTT > 0
        use vesselT
        name = VN
        skip
        do while .not. EOF()
            if name = VN
                n = n + 1
            else
                name = VN
            endif
            skip
        enddo
      endif
        TTV = TTT - n
        use
        erase vesselT.dbf
        erase cpstl.dbf

@ 1,1 clear to 11,78
@ 13,1 clear to 23,78
@ 2,6 say "DO YOU WANT THE OUTPUT SENT TO THE " +;
          "PRINTER OR THE SCREEN? (P/S)"
@ 3,6 say "(WARNING : PRINTER MUST BE READY FOR OPTION P.)"
pr = " "
do while .not. pr$"PpSs"
    pr = " "
    @ 2,70 get pr
    read
enddo
if upper(pr) = "P"
  @ 5,6 say "DO YOU WANT A COMPLETE CONFIDENTIAL REPORT " +;
            "OR PUBLIC REPORT ? (C/P)"
  cp = " "
  do while .not. cp$"CcPp"
      cp = " "
      @ 5,74 get cp
      read
  enddo
    set device to print
```

```
set device to print
@ 2,20 say "CANNERY PURSE SEINE / TRANSSHIPMENT REPORT"
do case
    case opt = '1'
        @ 6,6 say "JANUARY-MARCH  19"  + year
    case opt = '2'
        @ 6,6 say "APRIL-JUNE  19"  + year
    case opt = '3'
        @ 6,6 say "JULY-SEPTEMBER  19"  + year
    case opt = '4'
        @ 6,6 say "OCTOBER-DECEMBER  19"  + year
    case opt = '5'
        @ 6,6 say "ANNUAL REPORT    19"  + year
endcase
  if upper(cp) = "C"
    @ 9,8 say "PURSE SEINE LANDINGS      " +;
              "METRIC TONS LANDED     AVG WEIGHT/TRIP"
    @ 10,36 say "(CONFIDENTIAL)"
    @ 12,8 say "SKIPJACK                        "
    @ 12,40 say TSSJ pict '999,999'
    @ 12,60 say ASSJ pict '999,999'
    @ 14,8 say "YELLOWFIN/BIGEYE                "
    @ 14,40 say TSYFBE pict '999,999'
    @ 14,60 say ASYFBE pict '999,999'
    @ 16,8 say "ALBACORE, MARLIN                "
    @ 16,40 say TSOTHER pict '999,999'
    @ 16,60 say ASOTHER pict '999,999'
    @ 17,10 say "AND OTHERS"
    @ 20,16 say "TOTAL TRIPS: "
    @ 20,30 say TST pict '99999'
    @ 20,44 say "TOTAL VESSELS: "
    @ 20,60 say TSV pict '99999'
    @ 25,8 say "TRANSSHIPMENT LANDINGS     " +;
              "METRIC TONS LANDED     AVG WEIGHT/TRIP"
    @ 26,36 say "(CONFIDENTIAL)"
    @ 28,8 say "SKIPJACK                        "
    @ 28,40 say TTSJ pict '999,999'
    @ 28,60 say ATSJ pict '999,999'
    @ 30,8 say "YELLOWFIN/BIGEYE                "
    @ 30,40 say TTYFBE pict '999,999'
    @ 30,60 say ATYFBE pict '999,999'
    @ 32,8 say "ALBACORE, MARLIN                "
    @ 32,40 say TTOTHER pict '999,999'
    @ 32,60 say ATOTHER pict '999,999'
    @ 33,10 say "AND OTHERS"
    @ 36,16 say "TOTAL TRIPS: "
    @ 36,30 say TTT pict '99999'
    @ 36,44 say "TOTAL VESSELS: "
    @ 36,60 say TTV pict '99999'
    @ 38,1 say chr(12)
  else
    @ 9,8 say "PURSE SEINE LANDINGS      " +;
```

```
                "                              AVG WEIGHT/TRIP"
        @ 10,58 say "(METRIC TONS)"
        @ 12,8 say "SKIPJACK                          "
        @ 12,60 say ASSJ pict '999,999'
        @ 14,8 say "YELLOWFIN/BIGEYE                  "
        @ 14,60 say ASYFBE pict '999,999'
        @ 16,8 say "ALBACORE, MARLIN                  "
        @ 16,60 say ASOTHER pict '999,999'
        @ 17,10 say "AND OTHERS"
        @ 21,8 say "TRANSSHIPMENT LANDINGS     " +;
                "                              AVG WEIGHT/TRIP"
        @ 22,58 say "(METRIC TONS)"
        @ 24,8 say "SKIPJACK                          "
        @ 24,60 say ATSJ pict '999,999'
        @ 26,8 say "YELLOWFIN/BIGEYE                  "
        @ 26,60 say ATYFBE pict '999,999'
        @ 28,8 say "ALBACORE, MARLIN                  "
        @ 28,60 say ATOTHER pict '999,999'
        @ 29,10 say "AND OTHERS"
        @ 31,1 say chr(12)
      endif
     set device to screen
else
    @ 14,20 say "CANNERY PURSE SEINE / TRANSSHIPMENT REPORT"
    do case
        case opt = '1'
            @ 15,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 15,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 15,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 15,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 15,6 say "ANNUAL REPORT    19"  + year
    endcase
        @ 16,8 say "PURSE SEINE LANDINGS      " +;
                   "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 17,36 say "(CONFIDENTIAL)"
        @ 18,8 say "SKIPJACK                          "
        @ 18,40 say TSSJ pict '999,999'
        @ 18,60 say ASSJ pict '999,999'
        @ 19,8 say "YELLOWFIN/BIGEYE                  "
        @ 19,40 say TSYFBE pict '999,999'
        @ 19,60 say ASYFBE pict '999,999'
        @ 20,8 say "ALBACORE, MARLIN                  "
        @ 20,40 say TSOTHER pict '999,999'
        @ 20,60 say ASOTHER pict '999,999'
        @ 21,10 say "AND OTHERS"
        @ 22,16 say "TOTAL TRIPS: "
        @ 22,30 say TST pict '99999'
        @ 22,44 say "TOTAL VESSELS: "
```

```
        @ 22,60 say TSV pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 13,1 clear to 23,78
        @ 14,8 say "TRANSSHIPMENT LANDINGS     " +;
                   "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 15,36 say "(CONFIDENTIAL)"
        @ 16,8 say "SKIPJACK                        "
        @ 16,40 say TTSJ pict '999,999'
        @ 16,60 say ATSJ pict '999,999'
        @ 17,8 say "YELLOWFIN/BIGEYE                "
        @ 17,40 say TTYFBE pict '999,999'
        @ 17,60 say ATYFBE pict '999,999'
        @ 18,8 say "ALBACORE, MARLIN                "
        @ 18,40 say TTOTHER pict '999,999'
        @ 18,60 say ATOTHER pict '999,999'
        @ 19,10 say "AND OTHERS"
        @ 20,16 say "TOTAL TRIPS: "
        @ 20,30 say TTT pict '99999'
        @ 20,44 say "TOTAL VESSELS: "
        @ 20,60 say TTV pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 13,1 clear to 23,78
endif
enddo
use cpst
delete all
pack
use f1
delete all
pack
use
clear
return
```

```
*CANNA*
*
*****************************************************************
*MODULE TO PRODUCE CONFIDENTIAL AND/OR PUBLIC REPORTS OF CANNERY
*LANDINGS FOR PURSE SEINE AND TRANSSHIPMENT VESSELS, BY AREA
*(AREAS COVERED ARE FAO: 71, 71A, 71B, 77, 77A, AND 77B). REPORT
*OPTIONS ARE FOR ANY OF FOUR QUARTERS OR FOR AN ENTIRE YEAR
*(ANNUAL). DBF FILES USED TO PRODUCE REPORTS ARE AS FOLLOWS:
*
*  FL.DBF       DB VERSION OF ENTIRE INPUT FILE
*  FLST.DBF     FL STRUCTURE FILE, WITH THE FOLLOWING FIELDS:
*
*                  DSN          DATA SET NAME (FL008AA2)  8
*                  CC           CANNERY CODE              1
*                  VN           VESSEL NAME              20
*                  YY           YEAR                      2
*                  MM           MONTH                     2
*                  DD           DAY                       2
*                  FAO          CAPTURE AREA CODE         3
*                  CA           CAPTURE AREA NAME        20
*                  VT           VESSEL TYPE               2
*                  NA           NATION                    2
*                  SJ           SKIPJACK (LBS.)           8
*                  YF           YELLOWFIN (LBS.)          8
*                  BE           BIGEYE (LBS.)             8
*                  AC           ALBACORE (LBS.)           8
*                  ML           MARLIN (LBS.)             8
*                  MX           MIXED (LBS.)              8
*                  BLANK        BLANK FIELD               6
*                  BATCH        BATCH NUMBER              6
*                  SEQNUM       SEQUENCE NUMBER           8
*
*  CPST.DBF     FL SUBFILE CONTAINING ONLY FIELDS USED FOR THE
*               FINAL REPORTS
*  CPSTST.DBF   CPST STRUCTURE FILE
*                  (YY,MM,DD,FAO,VT,NA,SJ,YF,BE,AC,ML,MX)
*  CPST1.DBF    CPST SUBFILE USED TO PRODUCE FINAL REPORTS.
*               WILL CONTAIN ONE OF FOUR QUARTERS OR ELSE
*               ENTIRE YEAR OF CPST DATA.
*  VESSELS.DBF  TEMPORARY SORT FILE FOR DETERMINING NUMBER OF
*               SEINERS FOR THE REPORT PERIOD
*  VESSELT.DBF  TEMPORARY SORT FILE FOR DETERMINING NUMBER OF
*               TRANSHIPMENT VESSELS FOR REPORT PERIOD
*****************************************************************
clear
@ 0,0 to 24,79 double
@ 12,1 to 12,78 double
eras cpst1.dbf
eras vessels.dbf
eras vesselt.dbf
@ 2,2 say 'CANNERY PURSE SEINE / TRANSSHIPMENT REPORT'
@ 3,2 say 'EXTERNAL (ASCII) FILE SPECIFICATION SHOULD CONTAIN
```

```
PATH AND EXTENSION'
fn = space(20)
@ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
read
store ltrim(trim(fn)) to fnl
use fl
do while len(fnl) > 0
    if file(fnl)
        @ 1,1 clear to 11,78
        @ 13,1 clear to 13,78
        @ 2,60 say 'WORKING ...'
        append from &fnl sdf      && APPENDING FROM ASCII FILE
        exit
    else
        @ 1,1 clear to 11,78
        @ 13,1 clear to 23,78
        @ 3,2 say 'FILE ' + fnl + ' NOT FOUND'
        @ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
        read
        store ltrim(trim(fn)) to fnl
    endif
enddo
store YY to year
@ 2,2 say 'TEMPORARY FILE FL.DBF IN USE'
use cpst
delete all              && CLEAR FILE FOR NEXT TIME
pack
append from fl
@ 2,2 say 'PURSE SEINE / TRANSHIPMENT DBASE FILE CREATED'
use fl
delete all              && CLEAR FILE FOR NEXT TIME
pack
@ 2,2 say 'TEMPORARY FILE FL.DBF CLEARED                '
* 1,1 clear to 11,78
* 13,1 clear to 23,78
doflag = 1
do while doflag = 1
opt = space(1)
use cpst
@ 1,1 clear to 11,78
@ 13,1 clear to 23,78
@ 2,5 say 'AVAILABLE REPORT OPTIONS'
@ 4,5 say '  1  WINTER QUARTER (JAN-MAR)'
@ 5,5 say '  2  SPRING QUARTER (APR-JUN)'
@ 6,5 say '  3  SUMMER QUARTER (JUL-SEP)'
@ 7,5 say '  4  FALL QUARTER   (OCT-DEC)'
@ 8,5 say '  5  ANNUAL REPORT '
@ 9,5 say '  X  EXIT '

do while .not. opt$'12345Xx'
    @ 11,5 say 'SELECT REPORT OPTION BY NUMBER : ' get opt
    read
```

```
enddo
@ 2,60 say 'WORKING ...'
do case
    case opt = '1'
        copy to cpst1 for val(MM) >= 1 .and. val(MM) <= 3
    case opt = '2'
        copy to cpst1 for val(MM) >= 4 .and. val(MM) <= 6
    case opt = '3'
        copy to cpst1 for val(MM) >= 7 .and. val(MM) <= 9
    case opt = '4'
        copy to cpst1 for val(MM) >= 10 .and. val(MM) <= 12
    case opt = '5'
        copy to cpst1
    case opt$'Xx'
        doflag = 0
        exit
endcase
        use cpst1
        sum SJ, YF + BE, AC + ML + MX to TSSJ1A, TSYFBE1A, TS01A
            for VT = 'SE' .AND. FA0 = '71A'
        TSSJ1A = TSSJ1A/2204.6
        TSYFBE1A = TSYFBE1A/2204.6
        TS01A = TS01A/2204.6
        average SJ to ASSJ1A for VT = 'SE' .and. SJ > 0 .and. FA0 = '71A'
        ASSJ1A = ASSJ1A/2204.6
        average YF + BE to ASYFBE1A for VT = 'SE' .and. (YF > 0
            .or. BE > 0) .and. FA0 = '71A'
        ASYFBE1A = ASYFBE1A/2204.6
        average AC + ML + MX to AS01A for VT = 'SE' .and.
            (AC > 0 .or. ML > 0 .or. MX > 0) .and. FA0 = '71A'
        AS01A = AS01A/2204.6
        count to TST1A for VT = 'SE' .and. FA0 = '71A'
        sort to vesS1A on VN for VT = 'SE' .and. FA0 = '71A'
        n = 0
      if TST1A > 0
        use vesS1A
        name = VN
        skip
        do while .not. EOF()
            if name = VN
                n = n + 1
            else
                name = VN
            endif
            skip
        enddo
      endif
        TSV1A = TST1A - n
        use
        erase vesS1A.dbf
        use cpst1
        sum SJ, YF + BE, AC + ML + MX to TSSJ1B, TSYFBE1B, TS01B
```

```
      for VT = 'SE' .AND. FA0 = '71B'
  TSSJ1B = TSSJ1B/2204.6
  TSYFBE1B = TSYFBE1B/2204.6
  TS01B = TS01B/2204.6
  average SJ to ASSJ1B for VT = 'SE' .and. SJ > 0 .and. FA0 = '71B'
  ASSJ1B = ASSJ1B/2204.6
  average YF + BE to ASYFBE1B for VT = 'SE' .and. (YF > 0
      .or. BE > 0) .and. FA0 = '71B'
  ASYFBE1B = ASYFBE1B/2204.6
  average AC + ML + MX to AS01B for VT = 'SE' .and.
      (AC > 0 .or. ML > 0 .or. MX > 0) .and. FA0 = '71B'
  AS01B = AS01B/2204.6
  count to TST1B for VT = 'SE' .and. FA0 = '71B'
  sort to vesS1B on VN for VT = 'SE' .and. FA0 = '71B'
  n = 0
if TST1B > 0
  use vesS1B
  name = VN
  skip
  do while .not. EOF()
      if name = VN
          n = n + 1
      else
          name = VN
      endif
      skip
  enddo
endif
  TSV1B = TST1B - n
  use
  erase vesS1B.dbf
  use cpst1
  sum SJ, YF + BE, AC + ML + MX to TSSJ1, TSYFBE1, TS01
      for VT = 'SE' .AND. FA0 = '71 '
  TSSJ1 = TSSJ1/2204.6
  TSYFBE1 = TSYFBE1/2204.6
  TS01 = TS01/2204.6
  average SJ to ASSJ1 for VT = 'SE' .and. SJ > 0 .and. FA0 = '71 '
  ASSJ1 = ASSJ1/2204.6
  average YF + BE to ASYFBE1 for VT = 'SE' .and. (YF > 0
      .or. BE > 0) .and. FA0 = '71 '
  ASYFBE1 = ASYFBE1/2204.6
  average AC + ML + MX to AS01 for VT = 'SE' .and.
      (AC > 0 .or. ML > 0 .or. MX > 0) .and. FA0 = '71 '
  AS01 = AS01/2204.6
  count to TST1 for VT = 'SE' .and. FA0 = '71 '
  sort to vesS1 on VN for VT = 'SE' .and. FA0 = '71 '
  n = 0
if TST1 > 0
  use vesS1
  name = VN
  skip
```

```
  do while .not. EOF()
      if name = VN
          n = n + 1
      else
          name = VN
      endif
      skip
  enddo
endif
  TSV1 = TST1 - n
  use
  erase vesS1.dbf
  use cpstl
  sum SJ, YF + BE, AC + ML + MX to TSSJ7A, TSYFBE7A, TS07A
      for VT = 'SE' .AND. FA0 = '77A'
  TSSJ7A = TSSJ7A/2204.6
  TSYFBE7A = TSYFBE7A/2204.6
  TS07A = TS07A/2204.6
  average SJ to ASSJ7A for VT = 'SE' .and. SJ > 0 .and. FA0 = '77A'
  ASSJ7A = ASSJ7A/2204.6
  average YF + BE to ASYFBE7A for VT = 'SE' .and. (YF > 0
      .or. BE > 0) .and. FA0 = '77A'
  ASYFBE7A = ASYFBE7A/2204.6
  average AC + ML + MX to AS07A for VT = 'SE' .and.
     (AC > 0 .or. ML > 0 .or. MX > 0) .and. FA0 = '77A'
  AS07A = AS07A/2204.6
  count to TST7A for VT = 'SE' .and. FA0 = '77A'
  sort to vesS7A on VN for VT = 'SE' .and. FA0 = '77A'
  n = 0
if TST7A > 0
  use vesS7A
  name = VN
  skip
  do while .not. EOF()
      if name = VN
          n = n + 1
      else
          name = VN
      endif
      skip
  enddo
endif
  TSV7A = TST7A - n
  use
  erase vesS7A.dbf
  use cpstl
  sum SJ, YF + BE, AC + ML + MX to TSSJ7B, TSYFBE7B, TS07B
      for VT = 'SE' .AND. FA0 = '77B'
  TSSJ7B = TSSJ7B/2204.6
  TSYFBE7B = TSYFBE7B/2204.6
  TS07B = TS07B/2204.6
  average SJ to ASSJ7B for VT = 'SE' .and. SJ > 0 .and. FA0 = '77B'
```

```
  ASSJ7B = ASSJ7B/2204.6
  average YF + BE to ASYFBE7B for VT = 'SE' .and. (YF > 0
      .or. BE > 0) .and. FAO = '77B'
  ASYFBE7B = ASYFBE7B/2204.6
  average AC + ML + MX to AS07B for VT = 'SE' .and.
      (AC > 0 .or. ML > 0 .or. MX > 0) .and. FAO = '77B'
  AS07B = AS07B/2204.6
  count to TST7B for VT = 'SE' .and. FAO = '77B'
  sort to vesS7B on VN for VT = 'SE' .and. FAO = '77B'
  n = 0
if TST7B > 0
  use vesS7B
  name = VN
  skip
  do while .not. EOF()
      if name = VN
          n = n + 1
      else
          name = VN
      endif
      skip
  enddo
endif
  TSV7B = TST7B - n
  use
  erase vesS7B.dbf
  use cpstl
  sum SJ, YF + BE, AC + ML + MX to TSSJ7, TSYFBE7, TS07
      for VT = 'SE' .AND. FAO = '77 '
  TSSJ7 = TSSJ7/2204.6
  TSYFBE7 = TSYFBE7/2204.6
  TS07 = TS07/2204.6
  average SJ to ASSJ7 for VT = 'SE' .and. SJ > 0 .and. FAO = '77 '
  ASSJ7 = ASSJ7/2204.6
  average YF + BE to ASYFBE7 for VT = 'SE' .and. (YF > 0
      .or. BE > 0) .and. FAO = '77 '
  ASYFBE7 = ASYFBE7/2204.6
  average AC + ML + MX to AS07 for VT = 'SE' .and.
      (AC > 0 .or. ML > 0 .or. MX > 0) .and. FAO = '77 '
  AS07 = AS07/2204.6
  count to TST7 for VT = 'SE' .and. FAO = '77 '
  sort to vesS7 on VN for VT = 'SE' .and. FAO = '77 '
  n = 0
if TST7 > 0
  use vesS7
  name = VN
  skip
  do while .not. EOF()
      if name = VN
          n = n + 1
      else
          name = VN
```

```
            endif
            skip
          enddo
        endif
          TSV7 = TST7 - n
          use
          erase vesS7.dbf
          erase cpstl.dbf

@ 1,1 clear to 11,78
@ 13,1 clear to 23,78
@ 2,6 say "DO YOU WANT THE OUTPUT SENT TO THE " +;
          "PRINTER OR THE SCREEN? (P/S)"
@ 3,6 say "(WARNING : PRINTER MUST BE READY FOR OPTION P.)"
pr = " "
do while .not. pr$"PpSs"
    pr = " "
    @ 2,70 get pr
    read
enddo
if upper(pr) = "P"
  @ 5,6 say "DO YOU WANT A COMPLETE CONFIDENTIAL REPORT " +;
            "OR PUBLIC REPORT ? (C/P)"
  cp = " "
  do while .not. cp$"CcPp"
      cp = " "
      @ 5,74 get cp
      read
  enddo
    set device to print
    set device to print
    @ 2,20 say "CANNERY PURSE SEINE REPORT BY AREA"
    do case
        case opt = '1'
            @ 6,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 6,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 6,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 6,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 6,6 say "ANNUAL REPORT    19"  + year
    endcase
      if upper(cp) = "C"
        @ 8,8 say "PURSE SEINE LANDINGS       " +;
                  "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 9,36 say "(CONFIDENTIAL)"
        @ 12,10 say 'AREA: 71A'
        @ 14,8 say "SKIPJACK                          "
        @ 14,40 say TSSJ1A pict '999,999'
        @ 14,60 say ASSJ1A pict '999,999'
```

```
@ 16,8 say "YELLOWFIN/BIGEYE                "
@ 16,40 say TSYFBE1A pict '999,999'
@ 16,60 say ASYFBE1A pict '999,999'
@ 18,8 say "ALBACORE, MARLIN                "
@ 18,40 say TSO1A pict '999,999'
@ 18,60 say ASO1A pict '999,999'
@ 19,10 say "AND OTHERS"
@ 21,16 say "TOTAL TRIPS: "
@ 21,30 say TST1A pict '99999'
@ 21,44 say "TOTAL VESSELS: "
@ 21,60 say TSV1A pict '99999'
@ 25,10 say 'AREA: 71B'
@ 27,8 say "SKIPJACK                        "
@ 27,40 say TSSJ1B pict '999,999'
@ 27,60 say ASSJ1B pict '999,999'
@ 29,8 say "YELLOWFIN/BIGEYE                "
@ 29,40 say TSYFBE1B pict '999,999'
@ 29,60 say ASYFBE1B pict '999,999'
@ 31,8 say "ALBACORE, MARLIN                "
@ 31,40 say TSO1B pict '999,999'
@ 31,60 say ASO1B pict '999,999'
@ 32,10 say "AND OTHERS"
@ 34,16 say "TOTAL TRIPS: "
@ 34,30 say TST1B pict '99999'
@ 34,44 say "TOTAL VESSELS: "
@ 34,60 say TSV1B pict '99999'
@ 38,10 say 'AREA: 71'
@ 40,8 say "SKIPJACK                        "
@ 40,40 say TSSJ1 pict '999,999'
@ 40,60 say ASSJ1 pict '999,999'
@ 42,8 say "YELLOWFIN/BIGEYE                "
@ 42,40 say TSYFBE1 pict '999,999'
@ 42,60 say ASYFBE1 pict '999,999'
@ 44,8 say "ALBACORE, MARLIN                "
@ 44,40 say TSO1 pict '999,999'
@ 44,60 say ASO1 pict '999,999'
@ 45,10 say "AND OTHERS"
@ 47,16 say "TOTAL TRIPS: "
@ 47,30 say TST1 pict '99999'
@ 47,44 say "TOTAL VESSELS: "
@ 47,60 say TSV1 pict '99999'
@ 65,1 say chr(12)
@ 12,10 say 'AREA: 77A'
@ 14,8 say "SKIPJACK                        "
@ 14,40 say TSSJ7A pict '999,999'
@ 14,60 say ASSJ7A pict '999,999'
@ 16,8 say "YELLOWFIN/BIGEYE                "
@ 16,40 say TSYFBE7A pict '999,999'
@ 16,60 say ASYFBE7A pict '999,999'
@ 18,8 say "ALBACORE, MARLIN                "
@ 18,40 say TSO7A pict '999,999'
@ 18,60 say ASO7A pict '999,999'
```

```
  @ 19,10 say "AND OTHERS"
  @ 21,16 say "TOTAL TRIPS: "
  @ 21,30 say TST7A pict '99999'
  @ 21,44 say "TOTAL VESSELS: "
  @ 21,60 say TSV7A pict '99999'
  @ 25,10 say 'AREA: 77B'
  @ 27,8 say "SKIPJACK                          "
  @ 27,40 say TSSJ7B pict '999,999'
  @ 27,60 say ASSJ7B pict '999,999'
  @ 29,8 say "YELLOWFIN/BIGEYE                  "
  @ 29,40 say TSYFBE7B pict '999,999'
  @ 29,60 say ASYFBE7B pict '999,999'
  @ 31,8 say "ALBACORE, MARLIN                  "
  @ 31,40 say TSO7B pict '999,999'
  @ 31,60 say ASO7B pict '999,999'
  @ 32,10 say "AND OTHERS"
  @ 34,16 say "TOTAL TRIPS: "
  @ 34,30 say TST7B pict '99999'
  @ 34,44 say "TOTAL VESSELS: "
  @ 34,60 say TSV7B pict '99999'
  @ 38,10 say 'AREA: 77 '
  @ 40,8 say "SKIPJACK                          "
  @ 40,40 say TSSJ7 pict '999,999'
  @ 40,60 say ASSJ7 pict '999,999'
  @ 42,8 say "YELLOWFIN/BIGEYE                  "
  @ 42,40 say TSYFBE7 pict '999,999'
  @ 42,60 say ASYFBE7 pict '999,999'
  @ 44,8 say "ALBACORE, MARLIN                  "
  @ 44,40 say TSO7 pict '999,999'
  @ 44,60 say ASO7 pict '999,999'
  @ 45,10 say "AND OTHERS"
  @ 47,16 say "TOTAL TRIPS: "
  @ 47,30 say TST7 pict '99999'
  @ 47,44 say "TOTAL VESSELS: "
  @ 47,60 say TSV7 pict '99999'
  @ 65,1 say chr(12)
else
  @ 9,8 say "PURSE SEINE LANDINGS      " +;
            "                          AVG WEIGHT/TRIP"
  @ 10,58 say "(METRIC TONS)"
  @ 11,10 say 'AREA: 71A'
  @ 12,8 say "SKIPJACK                          "
  @ 12,60 say ASSJ1A pict '999,999'
  @ 14,8 say "YELLOWFIN/BIGEYE                  "
  @ 14,60 say ASYFBE1A pict '999,999'
  @ 16,8 say "ALBACORE, MARLIN                  "
  @ 16,60 say ASO1A pict '999,999'
  @ 17,10 say "AND OTHERS"
  @ 21,10 say 'AREA: 71B'
  @ 22,8 say "SKIPJACK                          "
  @ 22,60 say ASSJ1B pict '999,999'
  @ 24,8 say "YELLOWFIN/BIGEYE                  "
```

```
        @ 24,60 say ASYFBE1B pict '999,999'
        @ 26,8 say "ALBACORE, MARLIN                "
        @ 26,60 say AS01B pict '999,999'
        @ 27,10 say "AND OTHERS"
        @ 31,10 say 'AREA: 71 '
        @ 32,8 say "SKIPJACK                        "
        @ 32,60 say ASSJ1 pict '999,999'
        @ 34,8 say "YELLOWFIN/BIGEYE                "
        @ 34,60 say ASYFBE1 pict '999,999'
        @ 36,8 say "ALBACORE, MARLIN                "
        @ 36,60 say AS01 pict '999,999'
        @ 37,10 say "AND OTHERS"
        @ 11,10 say 'AREA: 77A'
        @ 12,8 say "SKIPJACK                        "
        @ 12,60 say ASSJ7A pict '999,999'
        @ 14,8 say "YELLOWFIN/BIGEYE                "
        @ 14,60 say ASYFBE7A pict '999,999'
        @ 16,8 say "ALBACORE, MARLIN                "
        @ 16,60 say AS07A pict '999,999'
        @ 17,10 say "AND OTHERS"
        @ 21,10 say 'AREA: 77B'
        @ 22,8 say "SKIPJACK                        "
        @ 22,60 say ASSJ7B pict '999,999'
        @ 24,8 say "YELLOWFIN/BIGEYE                "
        @ 24,60 say ASYFBE7B pict '999,999'
        @ 26,8 say "ALBACORE, MARLIN                "
        @ 26,60 say AS07B pict '999,999'
        @ 27,10 say "AND OTHERS"
        @ 31,10 say 'AREA: 77 '
        @ 32,8 say "SKIPJACK                        "
        @ 32,60 say ASSJ7 pict '999,999'
        @ 34,8 say "YELLOWFIN/BIGEYE                "
        @ 34,60 say ASYFBE7 pict '999,999'
        @ 36,8 say "ALBACORE, MARLIN                "
        @ 36,60 say AS07 pict '999,999'
        @ 37,10 say "AND OTHERS"
        @ 60,1 say chr(12)
      endif
     set device to screen
else
    @ 14,20 say "CANNERY PURSE SEINE LANDINGS REPORT BY AREA"
    do case
        case opt = '1'
            @ 15,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 15,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 15,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 15,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 15,6 say "ANNUAL REPORT    19"  + year
```

```
    endcase
        @ 15,50 say 'AREA: 71A'
        @ 16,8 say "PURSE SEINE LANDINGS      " +;
                   "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 17,36 say "(CONFIDENTIAL)"
        @ 18,8 say "SKIPJACK                        "
        @ 18,40 say TSSJ1A pict '999,999'
        @ 18,60 say ASSJ1A pict '999,999'
        @ 19,8 say "YELLOWFIN/BIGEYE                "
        @ 19,40 say TSYFBE1A pict '999,999'
        @ 19,60 say ASYFBE1A pict '999,999'
        @ 20,8 say "ALBACORE, MARLIN                "
        @ 20,40 say TS01A pict '999,999'
        @ 20,60 say AS01A pict '999,999'
        @ 21,10 say "AND OTHERS"
        @ 22,16 say "TOTAL TRIPS: "
        @ 22,30 say TST1A pict '99999'
        @ 22,44 say "TOTAL VESSELS: "
        @ 22,60 say TSV1A pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,50 say 'AREA: 71B'
        @ 16,8 say "PURSE SEINE LANDINGS      " +;
                   "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 17,36 say "(CONFIDENTIAL)"
        @ 18,8 say "SKIPJACK                        "
        @ 18,40 say TSSJ1B pict '999,999'
        @ 18,60 say ASSJ1B pict '999,999'
        @ 19,8 say "YELLOWFIN/BIGEYE                "
        @ 19,40 say TSYFBE1B pict '999,999'
        @ 19,60 say ASYFBE1B pict '999,999'
        @ 20,8 say "ALBACORE, MARLIN                "
        @ 20,40 say TS01B pict '999,999'
        @ 20,60 say AS01B pict '999,999'
        @ 21,10 say "AND OTHERS"
        @ 22,16 say "TOTAL TRIPS: "
        @ 22,30 say TST1B pict '99999'
        @ 22,44 say "TOTAL VESSELS: "
        @ 22,60 say TSV1B pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,50 say 'AREA 71 '
        @ 16,8 say "PURSE SEINE LANDINGS      " +;
                   "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 17,36 say "(CONFIDENTIAL)"
        @ 18,8 say "SKIPJACK                        "
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        @ 18,40 say TSSJ1  pict '999,999'
        @ 18,60 say ASSJ1  pict '999,999'
        @ 19,8 say "YELLOWFIN/BIGEYE                "
        @ 19,40 say TSYFBE1  pict '999,999'
        @ 19,60 say ASYFBE1  pict '999,999'
        @ 20,8 say "ALBACORE, MARLIN                "
        @ 20,40 say TSO1  pict '999,999'
        @ 20,60 say ASO1  pict '999,999'
        @ 21,10 say "AND OTHERS"
        @ 22,16 say "TOTAL TRIPS: "
        @ 22,30 say TST1  pict '99999'
        @ 22,44 say "TOTAL VESSELS: "
        @ 22,60 say TSV1  pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,50 say 'AREA 77A'
        @ 16,8 say "PURSE SEINE LANDINGS      " +;
                   "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 17,36 say "(CONFIDENTIAL)"
        @ 18,8 say "SKIPJACK                        "
        @ 18,40 say TSSJ7A pict '999,999'
        @ 18,60 say ASSJ7A pict '999,999'
        @ 19,8 say "YELLOWFIN/BIGEYE                "
        @ 19,40 say TSYFBE7A pict '999,999'
        @ 19,60 say ASYFBE7A pict '999,999'
        @ 20,8 say "ALBACORE, MARLIN                "
        @ 20,40 say TSO7A pict '999,999'
        @ 20,60 say ASO7A pict '999,999'
        @ 21,10 say "AND OTHERS"
        @ 22,16 say "TOTAL TRIPS: "
        @ 22,30 say TST7A pict '99999'
        @ 22,44 say "TOTAL VESSELS: "
        @ 22,60 say TSV7A pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,50 say 'AREA 77B'
        @ 16,8 say "PURSE SEINE LANDINGS      " +;
                   "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 17,36 say "(CONFIDENTIAL)"
        @ 18,8 say "SKIPJACK                        "
        @ 18,40 say TSSJ7B pict '999,999'
        @ 18,60 say ASSJ7B pict '999,999'
        @ 19,8 say "YELLOWFIN/BIGEYE                "
        @ 19,40 say TSYFBE7B pict '999,999'
        @ 19,60 say ASYFBE7B pict '999,999'
        @ 20,8 say "ALBACORE, MARLIN                "
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        @ 20,40 say TSO7B pict '999,999'
        @ 20,60 say ASO7B pict '999,999'
        @ 21,10 say "AND OTHERS"
        @ 22,16 say "TOTAL TRIPS: "
        @ 22,30 say TST7B pict '99999'
        @ 22,44 say "TOTAL VESSELS: "
        @ 22,60 say TSV7B pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,50 say 'AREA 77 '
        @ 16,8 say "PURSE SEINE LANDINGS      " +;
                   "METRIC TONS LANDED     AVG WEIGHT/TRIP"
        @ 17,36 say "(CONFIDENTIAL)"
        @ 18,8 say "SKIPJACK                        "
        @ 18,40 say TSSJ7  pict '999,999'
        @ 18,60 say ASSJ7  pict '999,999'
        @ 19,8 say "YELLOWFIN/BIGEYE                "
        @ 19,40 say TSYFBE7  pict '999,999'
        @ 19,60 say ASYFBE7  pict '999,999'
        @ 20,8 say "ALBACORE, MARLIN                "
        @ 20,40 say TSO7  pict '999,999'
        @ 20,60 say ASO7  pict '999,999'
        @ 21,10 say "AND OTHERS"
        @ 22,16 say "TOTAL TRIPS: "
        @ 22,30 say TST7  pict '99999'
        @ 22,44 say "TOTAL VESSELS: "
        @ 22,60 say TSV7  pict '99999'
@ 10,10 say 'PRESS ANY KEY'
set cons off
wait
set cons on
@ 13,1 clear to 23,78
endif
enddo
use cpst
delete all
pack
use f1
delete all
pack
use
clear
return
```

```
*LENGTH*
*
*  delete work files from any previously aborted runs  *
    erase sbe.dbf
    erase pslf1.dbf
    erase ssj.dbf
    erase syf.dbf
*
*********************************************************************
*MODULE TO PRODUCE LENGTH-FREQUENCY REPORTS. EACH REPORT WILL
*STATE THE NUMBER OF FISH SAMPLED (N), AVERAGE LENGTH (AVERAGE),
*STANDARD DEVIATION (S D), MAXIMUM LENGTH (MAX), AND MINIMUM
*LENGTH (MIN) FOR SKIPJACK, YELLOWFIN, AND BIGEYE. ALL LENGTHS
*ARE GIVEN IN MILLIMETERS. OPTIONS ARE FOR ANY OF FOUR QUARTERS
*OR FOR AN ENTIRE YEAR (ANNUAL). DBF FILES USED TO PRODUCE
*REPORTS ARE AS FOLLOWS:
*
*  RP.DBF      DB VERSION OF ENTIRE INPUT FILE
*  RPST.DBF    RP STRUCTURE FILE, WITH THE FOLLOWING FIELDS:
*
*                DSN          DATA SET NAME (RP043AA1)  8
*                VN           VESSEL NAME              20
*                VT           VESSEL TYPE               2
*                NA           NATIONALITY               2
*                SS           SAMPLING SITE            15
*                             SAMPLING DATE:
*                SYY            YEAR                    2
*                MM             MONTH                   2
*                DD             DAY                     2
*                             ARRIVAL DATE:
*                YY             YEAR                    2
*                MM             MONTH                   2
*                DD             DAY                     2
*                HN           WELL/HOLD NO.             3
*                FAO          CAPTURE AREA CODE         3
*                CA           CAPTURE AREA NAME        20
*                NO           NO.                       3
*                SJL          SKIPJACK LENGTH (MM)      4
*                YFL          YELLOWFIN LENGTH (MM)     4
*                BEL          BIGEYE LENGTH (MM)        4
*                OTHER1       OTHER                     4
*                OTHER2       OTHER                     4
*                BLANK        BLANK FIELD               8
*                BATCH        BATCH NUMBER              6
*                SEQNUM       SEQUENCE NUMBER           8
*
*  PSLF.DBF    RP SUBFILE CONTAINING ONLY FIELDS USED FOR THE
*              FINAL REPORTS
*  PSLFST.DBF  PSLF STRUCTURE FILE
*                 (VN,VT,SYY,SMM,SDD,FAO,SJL,YFL,BEL,OTHER1,OTHER2)
*  PSLF1.DBF   PSLF SUBFILE USED TO PRODUCE FINAL REPORTS.
*              WILL CONTAIN ONE OF FOUR QUARTERS OR ELSE
```

```
*              ENTIRE YEAR OF CPST DATA.
*
*  OUTPUT VALUES:
*              NSXX            NUMBER OF FISH SAMPLED
*              ASXX            AVERAGE FISH LENGTH
*              SXXSD           STANDARD DEVIATION OF SAMPLES
*              SXXMIN          MINIMUM SAMPLE LENGTH
*              SXXMAX          MAXIMUM SAMPLE LENGTH
*       WHERE XX = SJ (SKIPJACK), YF (YELLOWFIN), BE (BIGEYE)
*********************************************************************
clear
@ 0,0 to 24,79 double
@ 12,1 to 12,78 double
@ 2,2 say 'PURSE SEINE LENGTH-FREQUENCY REPORT'
@ 3,2 say 'EXTERNAL (ASCII) FILE SPECIFICATION SHOULD CONTAIN
PATH AND EXTENSION'
fn = space(20)
@ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
read
store ltrim(trim(fn)) to fnl
use rp
do while len(fnl) > 0
    if file(fnl)
        @ 1,1 clear to 11,78
        @ 13,1 clear to 13,78
        @ 2,60 say 'WORKING ... (3)'
        append from &fnl sdf          && APPENDING FROM ASCII FILE
        exit
    else
        @ 1,1 clear to 11,78
        @ 13,1 clear to 23,78
        @ 3,2 say 'FILE ' + fnl + ' NOT FOUND'
        @ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
        read
        store ltrim(trim(fn)) to fnl
    endif
enddo
store SYY to year
@ 2,2 say 'TEMPORARY FILE RP.DBF IN USE          '
@ 2,60 say 'WORKING ... (2)'
use pslf
delete all
pack
append from rp
@ 2,2 say 'PURSE SEINE LENGTH-FREQUENCY DBASE FILE CREATED'
@ 2,60 say 'WORKING ... (1)'
use rp
delete all
pack
@ 2,2 say 'TEMPORARY FILE RP.DBF DELETED                  '
* 1,1 clear to 11,78
* 13,1 clear to 13,78
```

```
doflag = 1
do while doflag = 1
opt = space(1)
use pslf
@ 1,1 clear to 11,78
@ 13,1 clear to 23,78
@ 2,5 say 'AVAILABLE REPORT OPTIONS'
@ 4,5 say '  1  WINTER QUARTER (JAN-MAR)'
@ 5,5 say '  2  SPRING QUARTER (APR-JUN)'
@ 6,5 say '  3  SUMMER QUARTER (JUL-SEP)'
@ 7,5 say '  4  FALL QUARTER   (OCT-DEC)'
@ 8,5 say '  5  ANNUAL REPORT '
@ 9,5 say '  X  EXIT '

do while .not. opt$'12345Xx'
    @ 11,5 say 'SELECT REPORT OPTION BY NUMBER : ' get opt
    read
enddo
@ 2,50 say 'WORKING ... (*)'
do case
    case opt = '1'
        copy to pslfl for val(SMM) >= 1 .and. val(SMM) <= 3
    case opt = '2'
        copy to pslfl for val(SMM) >= 4 .and. val(SMM) <= 6
    case opt = '3'
        copy to pslfl for val(SMM) >= 7 .and. val(SMM) <= 9
    case opt = '4'
        copy to pslfl for val(SMM) >= 10 .and. val(SMM) <= 12
    case opt = '5'
        copy to pslfl
    case opt$'Xx'
        doflag = 0
        exit
endcase
        @ 2,50 say 'WORKING ... (4)'
        use pslfl
        copy to ssj for VT = 'SE' .and. SJL > 0
        use ssj
          count to NSSJ
          aver SJL to ASSJ
          SSJMIN = ASSJ
          SSJMAX = ASSJ
          SSJSD = 0
        if NSSJ > 0
          go top
          do while .not. EOF()
            SSJMIN = min(SSJMIN,SJL)
            SSJMAX = max(SSJMAX,SJL)
            SSJSD = SSJSD + (SJL-ASSJ)*(SJL-ASSJ)
            skip
          enddo
        endif
```

```
if NSSJ <> 1
  SSJSD = sqrt((SSJSD)/(NSSJ-1))
else
  SSJSD = 0
endif
@ 2,50 say 'WORKING ... (3)'
use pslfl
eras ssj.dbf
copy to syf for VT = 'SE' .and. YFL > 0
use syf
  count to NSYF
  aver YFL to ASYF
  SYFMIN = ASYF
  SYFMAX = ASYF
  SYFSD = 0
if NSYF > 0
  go top
  do while .not. EOF()
    SYFMIN = min(SYFMIN,YFL)
    SYFMAX = max(SYFMAX,YFL)
    SYFSD = SYFSD + (YFL-ASYF)*(YFL-ASYF)
    skip
  enddo
endif
if NSYF <> 1
  SYFSD = sqrt((SYFSD)/(NSYF-1))
else
  SYFSD = 0
endif
@ 2,50 say 'WORKING ... (2)'
use pslfl
eras syf.dbf
copy to sbe for VT = 'SE' .and. BEL > 0
use sbe
  count to NSBE
  aver BEL to ASBE
  SBEMIN = ASBE
  SBEMAX = ASBE
  SBESD = 0
if NSBE > 0
  go top
  do while .not. EOF()
    SBEMIN = min(SBEMIN,BEL)
    SBEMAX = max(SBEMAX,BEL)
    SBESD = SBESD + (BEL-ASBE)*(BEL-ASBE)
    skip
  enddo
endif
if NSBE <> 1
  SBESD = sqrt((SBESD)/(NSBE-1))
else
  SBESD = 0
```

```
        endif
        @ 2,50 say 'WORKING ... (1)'
        use
        erase sbe.dbf
        erase pslfl.dbf
@ 1,1 clear to 11,70
@ 13,1 clear to 13,70
@ 2,6 say "DO YOU WANT THE OUTPUT SENT TO THE " +;
          "PRINTER OR THE SCREEN? (P/S)"
@ 3,6 say '(WARNING : PRINTER MUST BE READY FOR OPTION P.)'
pr = " "
do while .not. pr$"PpSs"
    pr = " "
    @ 2,70 get pr
    read
enddo
if upper(pr) = "P"
    set device to print
    set device to print
    @ 2,20 say "PURSE SEINE LENGTH-FREQUENCY REPORT"
    do case
        case opt = '1'
            @ 6,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 6,6 say "APRIL-JUNE  19" + year
        case opt = '3'
            @ 6,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 6,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 6,6 say "ANNUAL REPORT    19"  + year
    endcase
        @ 6,50 say '(MEASUREMENTS IN MM)'
        @ 10,10 say 'SPECIES           N      AVERAGE      S D       MIN       MAX'
        @ 12,8 say "SKIPJACK"
        @ 12,25 say NSSJ pict '99999'
        @ 12,35 say ASSJ pict '9999.99'
        @ 12,45 say SSJSD pict '9999.99'
        @ 12,55 say SSJMIN pict '9999.99'
        @ 12,65 say SSJMAX pict '9999.99'
        @ 14,8 say "YELLOWFIN"
        @ 14,25 say NSYF pict '99999'
        @ 14,35 say ASYF pict '9999.99'
        @ 14,45 say SYFSD pict '9999.99'
        @ 14,55 say SYFMIN pict '9999.99'
        @ 14,65 say SYFMAX pict '9999.99'
        @ 16,8 say "BIGEYE                          "
        @ 16,25 say NSBE pict '99999'
        @ 16,35 say ASBE pict '9999.99'
        @ 16,45 say SBESD pict '9999.99'
        @ 16,55 say SBEMIN pict '9999.99'
        @ 16,65 say SBEMAX pict '9999.99'
```

```
        @ 20,10 say chr(12)
    set device to screen
else
    @ 14,20 say "PURSE SEINE LENGTH-FREQUENCY REPORT"
    do case
        case opt = '1'
            @ 15,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 15,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 15,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 15,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 15,6 say "ANNUAL REPORT    19"  + year
    endcase
        @ 15,50 say '(MEASUREMENTS IN MM)'
        @ 16,8 say 'SPECIES       N       AVERAGE       S D       MIN       M
        @ 18,8 say 'SKIPJACK'
        @ 18,20 say NSSJ pict '99999'
        @ 18,30 say ASSJ pict '9999.99'
        @ 18,40 say SSJSD pict '9999.99'
        @ 18,50 say SSJMIN pict '9999.99'
        @ 18,60 say SSJMAX pict '9999.99'
        @ 19,8 say 'YELLOWFIN'
        @ 19,20 say NSYF pict '99999'
        @ 19,30 say ASYF pict '9999.99'
        @ 19,40 say SYFSD pict '9999.99'
        @ 19,50 say SYFMIN pict '9999.99'
        @ 19,60 say SYFMAX pict '9999.99'
        @ 20,8 say 'BIGEYE'
        @ 20,20 say NSBE pict '99999'
        @ 20,30 say ASBE pict '9999.99'
        @ 20,40 say SBESD pict '9999.99'
        @ 20,50 say SBEMIN pict '9999.99'
        @ 20,60 say SBEMAX pict '9999.99'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 13,1 clear to 23,78
endif
enddo
clear
return
```

```
*LENGTHA*
*
*  delete work files from any previously aborted runs  *
    erase sbe.dbf
    erase pslf1.dbf
    erase ssj.dbf
    erase syf.dbf
*
**********************************************************************
*MODULE TO PRODUCE LENGTH-FREQUENCY REPORTS BY CATCH AREA (FAO
*AREAS ARE 71, 71A, 71B, 77, 77A, AND 77B).  EACH REPORT WILL
*STATE THE NUMBER OF FISH SAMPLED (N), AVERAGE LENGTH (AVERAGE),
*STANDARD DEVIATION (S D), MAXIMUM LENGTH (MAX), AND MINIMUM
*LENGTH (MIN) FOR SKIPJACK, YELLOWFIN, AND BIGEYE. ALL LENGTHS
*ARE GIVEN IN MILLIMETERS. OPTIONS ARE FOR ANY OF FOUR QUARTERS
*OR FOR AN ENTIRE YEAR (ANNUAL). DBF FILES USED TO PRODUCE
*REPORTS ARE AS FOLLOWS:
*
*  RP.DBF       DB VERSION OF ENTIRE INPUT FILE
*  RPST.DBF     RP STRUCTURE FILE, WITH THE FOLLOWING FIELDS:
*
*                  DSN          DATA SET NAME (RP043AA1)  8
*                  VN           VESSEL NAME              20
*                  VT           VESSEL TYPE               2
*                  NA           NATIONALITY               2
*                  SS           SAMPLING SITE            15
*                               SAMPLING DATE:
*                  SYY            YEAR                    2
*                  MM             MONTH                   2
*                  DD             DAY                     2
*                               ARRIVAL DATE:
*                  YY             YEAR                    2
*                  MM             MONTH                   2
*                  DD             DAY                     2
*                  HN           WELL/HOLD NO.             3
*                  FAO          CAPTURE AREA CODE         3
*                  CA           CAPTURE AREA NAME        20
*                  NO           NO.                       3
*                  SJL          SKIPJACK LENGTH (MM)      4
*                  YFL          YELLOWFIN LENGTH (MM)     4
*                  BEL          BIGEYE LENGTH (MM)        4
*                  OTHER1       OTHER                     4
*                  OTHER2       OTHER                     4
*                  BLANK        BLANK FIELD               8
*                  BATCH        BATCH NUMBER              6
*                  SEQNUM       SEQUENCE NUMBER           8
*
*  PSLF.DBF     RP SUBFILE CONTAINING ONLY FIELDS USED FOR THE
*               FINAL REPORTS
*  PSLFST.DBF   PSLF STRUCTURE FILE
*                  (VN,VT,SYY,SMM,SDD,FAO,SJL,YFL,BEL,OTHER1,OTHER2)
*  PSLF1.DBF    PSLF SUBFILE USED TO PRODUCE FINAL REPORTS.
```

```
*              WILL CONTAIN ONE OF FOUR QUARTERS OR ELSE
*              ENTIRE YEAR OF CPST DATA.
*
*  OUTPUT VALUES:
*              NSXX            NUMBER OF FISH SAMPLED
*              ASXX            AVERAGE FISH LENGTH
*              SXXSD           STANDARD DEVIATION OF SAMPLES
*              SXXMIN          MINIMUM SAMPLE LENGTH
*              SXXMAX          MAXIMUM SAMPLE LENGTH
*       WHERE XX = SJ (SKIPJACK), YF (YELLOWFIN), BE (BIGEYE)
*************************************************************************
clear
@ 0,0 to 24,79 double
@ 12,1 to 12,78 double
@ 2,2 say 'PURSE SEINE LENGTH-FREQUENCY REPORT - BY AREA'
@ 3,2 say 'EXTERNAL (ASCII) FILE SPECIFICATION SHOULD CONTAIN
PATH AND EXTENSION'
fn = space(20)
@ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
read
store ltrim(trim(fn)) to fnl
use rp
do while len(fnl) > 0
    if file(fnl)
        @ 1,1 clear to 11,78
        @ 13,1 clear to 13,78
        @ 2,60 say 'WORKING ... (3)'
        append from &fnl sdf          && APPENDING FROM ASCII FILE
        exit
    else
        @ 1,1 clear to 11,78
        @ 13,1 clear to 23,78
        @ 3,2 say 'FILE ' + fnl + ' NOT FOUND'
        @ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
        read
        store ltrim(trim(fn)) to fnl
    endif
enddo
store SYY to year
@ 2,2 say 'TEMPORARY FILE RP.DBF IN USE                    '
@ 2,60 say 'WORKING ... (2)'
use pslf
delete all
pack
append from rp
@ 2,2 say 'PURSE SEINE LENGTH-FREQUENCY DBASE FILE CREATED'
@ 2,60 say 'WORKING ... (1)'
use rp
delete all
pack
@ 2,2 say 'TEMPORARY FILE RP.DBF DELETED                   '
* 1,1 clear to 11,78
```

```
* 13,1 clear to 13,78
doflag = 1
do while doflag = 1
opt = space(1)
use pslf
@ 1,1 clear to 11,78
@ 13,1 clear to 23,78
@ 2,5 say 'AVAILABLE REPORT OPTIONS'
@ 4,5 say '  1  WINTER QUARTER (JAN-MAR)'
@ 5,5 say '  2  SPRING QUARTER (APR-JUN)'
@ 6,5 say '  3  SUMMER QUARTER (JUL-SEP)'
@ 7,5 say '  4  FALL QUARTER   (OCT-DEC)'
@ 8,5 say '  5  ANNUAL REPORT '
@ 9,5 say '  X  EXIT '

do while .not. opt$'12345Xx'
    @ 11,5 say 'SELECT REPORT OPTION BY NUMBER : ' get opt
    read
enddo
@ 2,50 say 'WORKING ... (**)'
do case
    case opt = '1'
        copy to pslfl for val(SMM) >= 1 .and. val(SMM) <= 3
    case opt = '2'
        copy to pslfl for val(SMM) >= 4 .and. val(SMM) <= 6
    case opt = '3'
        copy to pslfl for val(SMM) >= 7 .and. val(SMM) <= 9
    case opt = '4'
        copy to pslfl for val(SMM) >= 10 .and. val(SMM) <= 12
    case opt = '5'
        copy to pslfl
    case opt$'Xx'
        doflag = 0
        exit
endcase
        @ 2,50 say 'WORKING ... (19)'
        use pslfl
        copy to ssjla for VT = 'SE' .and. SJL > 0 .and. FAO = '71A'
        use ssjla
          count to NSSJ1A
          aver SJL to ASSJ1A
          SSJMIN1A = ASSJ1A
          SSJMAX1A = ASSJ1A
          SSJSD1A = 0
        if NSSJ1A > 0
          go top
          do while .not. EOF()
            SSJMIN1A = min(SSJMIN1A,SJL)
            SSJMAX1A = max(SSJMAX1A,SJL)
            SSJSD1A = SSJSD1A + (SJL-ASSJ1A)*(SJL-ASSJ1A)
            skip
          enddo
```

```
endif
if NSSJ1A <> 1
  SSJSD1A = sqrt((SSJSD1A)/(NSSJ1A-1))
else
  SSJSD1A = 0
endif
@ 2,50 say 'WORKING ... (18)'
use ps1f1
eras ssj1a.dbf
copy to syf1a for VT = 'SE' .and. YFL > 0 .and. FAO = '71A'
use syf1a
  count to NSYF1A
  aver YFL to ASYF1A
  SYFMIN1A = ASYF1A
  SYFMAX1A = ASYF1A
  SYFSD1A = 0
if NSYF1A > 0
  go top
  do while .not. EOF()
    SYFMIN1A = min(SYFMIN1A,YFL)
    SYFMAX1A = max(SYFMAX1A,YFL)
    SYFSD1A = SYFSD1A + (YFL-ASYF1A)*(YFL-ASYF1A)
    skip
  enddo
endif
if NSYF1A <> 1
  SYFSD1A = sqrt((SYFSD1A)/(NSYF1A-1))
else
  SYFSD1A = 0
endif
@ 2,50 say 'WORKING ... (17)'
use ps1f1
eras syf1a.dbf
copy to sbe1a for VT = 'SE' .and. BEL > 0 .and. FAO = '71A'
use sbe1a
  count to NSBE1A
  aver BEL to ASBE1A
  SBEMIN1A = ASBE1A
  SBEMAX1A = ASBE1A
  SBESD1A = 0
if NSBE1A > 0
  go top
  do while .not. EOF()
    SBEMIN1A = min(SBEMIN1A,BEL)
    SBEMAX1A = max(SBEMAX1A,BEL)
    SBESD1A = SBESD1A + (BEL-ASBE1A)*(BEL-ASBE1A)
    skip
  enddo
endif
if NSBE1A <> 1
  SBESD1A = sqrt((SBESD1A)/(NSBE1A-1))
else
```

```
  SBESD1A = 0
endif
@ 2,50 say 'WORKING ... (16)'
use psl1
eras sbela.dbf
copy to ssj1b for VT = 'SE' .and. SJL > 0 .and. FAO = '71B'
use ssj1b
  count to NSSJ1B
  aver SJL to ASSJ1B
  SSJMIN1B = ASSJ1B
  SSJMAX1B = ASSJ1B
  SSJSD1B = 0
if NSSJ1B > 0
  go top
  do while .not. EOF()
    SSJMIN1B = min(SSJMIN1B,SJL)
    SSJMAX1B = max(SSJMAX1B,SJL)
    SSJSD1B = SSJSD1B + (SJL-ASSJ1B)*(SJL-ASSJ1B)
    skip
  enddo
endif
if NSSJ1B <> 1
  SSJSD1B = sqrt((SSJSD1B)/(NSSJ1B-1))
else
  SSJSD1B = 0
endif
@ 2,50 say 'WORKING ... (15)'
use psl1
eras ssj1b.dbf
copy to syf1b for VT = 'SE' .and. YFL > 0 .and. FAO = '71B'
use syf1b
  count to NSYF1B
  aver YFL to ASYF1B
  SYFMIN1B = ASYF1B
  SYFMAX1B = ASYF1B
  SYFSD1B = 0
if NSYF1B > 0
  go top
  do while .not. EOF()
    SYFMIN1B = min(SYFMIN1B,YFL)
    SYFMAX1B = max(SYFMAX1B,YFL)
    SYFSD1B = SYFSD1B + (YFL-ASYF1B)*(YFL-ASYF1B)
    skip
  enddo
endif
if NSYF1B <> 1
  SYFSD1B = sqrt((SYFSD1B)/(NSYF1B-1))
else
  SYFSD1B = 0
endif
@ 2,50 say 'WORKING ... (14)'
use psl1
```

```
eras syf1b.dbf
copy to sbe1b for VT = 'SE' .and. BEL > 0 .and. FAO = '71B'
use sbe1b
  count to NSBE1B
  aver BEL to ASBE1B
  SBEMIN1B = ASBE1B
  SBEMAX1B = ASBE1B
  SBESD1B = 0
if NSBE1B > 0
  go top
  do while .not. EOF()
    SBEMIN1B = min(SBEMIN1B,BEL)
    SBEMAX1B = max(SBEMAX1B,BEL)
    SBESD1B = SBESD1B + (BEL-ASBE1B)*(BEL-ASBE1B)
    skip
  enddo
endif
if NSBE1B <> 1
  SBESD1B = sqrt((SBESD1B)/(NSBE1B-1))
else
  SBESD1B = 0
endif
@ 2,50 say 'WORKING ... (13)'
use ps1f1
eras sbe1b.dbf
copy to ssj1 for VT = 'SE' .and. SJL > 0 .and. FAO = '71 '
use ssj1
  count to NSSJ1
  aver SJL to ASSJ1
  SSJMIN1 = ASSJ1
  SSJMAX1 = ASSJ1
  SSJSD1 = 0
if NSSJ1 > 0
  go top
  do while .not. EOF()
    SSJMIN1 = min(SSJMIN1,SJL)
    SSJMAX1 = max(SSJMAX1,SJL)
    SSJSD1 = SSJSD1 + (SJL-ASSJ1)*(SJL-ASSJ1)
    skip
  enddo
endif
if NSSJ1 <> 1
  SSJSD1 = sqrt((SSJSD1)/(NSSJ1-1))
else
  SSJSD1 = 0
endif
@ 2,50 say 'WORKING ... (12)'
use ps1f1
eras ssj1.dbf
copy to syf1 for VT = 'SE' .and. YFL > 0 .and. FAO = '71 '
use syf1
  count to NSYF1
```

```
  aver YFL to ASYF1
  SYFMIN1 = ASYF1
  SYFMAX1 = ASYF1
  SYFSD1 = 0
if NSYF1 > 0
  go top
  do while .not. EOF()
    SYFMIN1 = min(SYFMIN1,YFL)
    SYFMAX1 = max(SYFMAX1,YFL)
    SYFSD1 = SYFSD1 + (YFL-ASYF1)*(YFL-ASYF1)
    skip
  enddo
endif
if NSYF1 <> 1
  SYFSD1 = sqrt((SYFSD1)/(NSYF1-1))
else
  SYFSD1 = 0
endif
@ 2,50 say 'WORKING ... (11)'
use pslf1
eras syf1.dbf
copy to sbe1 for VT = 'SE' .and. BEL > 0 .and. FA0 = '71 '
use sbe1
  count to NSBE1
  aver BEL to ASBE1
  SBEMIN1 = ASBE1
  SBEMAX1 = ASBE1
  SBESD1 = 0
if NSBE1 > 0
  go top
  do while .not. EOF()
    SBEMIN1 = min(SBEMIN1,BEL)
    SBEMAX1 = max(SBEMAX1,BEL)
    SBESD1 = SBESD1 + (BEL-ASBE1)*(BEL-ASBE1)
    skip
  enddo
endif
if NSBE1 <> 1
  SBESD1 = sqrt((SBESD1)/(NSBE1-1))
else
  SBESD1 = 0
endif
@ 2,50 say 'WORKING ... (10)'
use pslf1
eras sbe1.dbf
copy to ssj7a for VT = 'SE' .and. SJL > 0 .and. FA0 = '77A'
use ssj7a
  count to NSSJ7A
  aver SJL to ASSJ7A
  SSJMIN7A = ASSJ7A
  SSJMAX7A = ASSJ7A
  SSJSD7A = 0
```

```
if NSSJ7A > 0
  go top
  do while .not. EOF()
    SSJMIN7A = min(SSJMIN7A,SJL)
    SSJMAX7A = max(SSJMAX7A,SJL)
    SSJSD7A = SSJSD7A + (SJL-ASSJ7A)*(SJL-ASSJ7A)
    skip
  enddo
endif
if NSSJ7A <> 1
  SSJSD7A = sqrt((SSJSD7A)/(NSSJ7A-1))
else
  SSJSD7A = 0
endif
@ 2,50 say 'WORKING ... ( 9)'
use pslfl
eras ssj7a.dbf
copy to syf7a for VT = 'SE' .and. YFL > 0 .and. FAO = '77A'
use syf7a
  count to NSYF7A
  aver YFL to ASYF7A
  SYFMIN7A = ASYF7A
  SYFMAX7A = ASYF7A
  SYFSD7A = 0
if NSYF7A > 0
  go top
  do while .not. EOF()
    SYFMIN7A = min(SYFMIN7A,YFL)
    SYFMAX7A = max(SYFMAX7A,YFL)
    SYFSD7A = SYFSD7A + (YFL-ASYF7A)*(YFL-ASYF7A)
    skip
  enddo
endif
if NSYF7A <> 1
  SYFSD7A = sqrt((SYFSD7A)/(NSYF7A-1))
else
  SYFSD7A = 0
endif
@ 2,50 say 'WORKING ... ( 8)'
use pslfl
eras syf7a.dbf
copy to sbe7a for VT = 'SE' .and. BEL > 0 .and. FAO = '77A'
use sbe7a
  count to NSBE7A
  aver BEL to ASBE7A
  SBEMIN7A = ASBE7A
  SBEMAX7A = ASBE7A
  SBESD7A = 0
if NSBE7A > 0
  go top
  do while .not. EOF()
    SBEMIN7A = min(SBEMIN7A,BEL)
```

```
    SBEMAX7A = max(SBEMAX7A,BEL)
    SBESD7A = SBESD7A + (BEL-ASBE7A)*(BEL-ASBE7A)
    skip
  enddo
endif
if NSBE7A <> 1
  SBESD7A = sqrt((SBESD7A)/(NSBE7A-1))
else
  SBESD7A = 0
endif
@ 2,50 say 'WORKING ... ( 7)'
use ps1f1
eras sbe7a.dbf
copy to ssj7b for VT = 'SE' .and. SJL > 0 .and. FAO = '77B'
use ssj7b
  count to NSSJ7B
  aver SJL to ASSJ7B
  SSJMIN7B = ASSJ7B
  SSJMAX7B = ASSJ7B
  SSJSD7B = 0
if NSSJ7B > 0
  go top
  do while .not. EOF()
    SSJMIN7B = min(SSJMIN7B,SJL)
    SSJMAX7B = max(SSJMAX7B,SJL)
    SSJSD7B = SSJSD7B + (SJL-ASSJ7B)*(SJL-ASSJ7B)
    skip
  enddo
endif
if NSSJ7B <> 1
  SSJSD7B = sqrt((SSJSD7B)/(NSSJ7B-1))
else
  SSJSD7B = 0
endif
@ 2,50 say 'WORKING ... ( 6)'
use ps1f1
eras ssj7b.dbf
copy to syf7b for VT = 'SE' .and. YFL > 0 .and. FAO = '77B'
use syf7b
  count to NSYF7B
  aver YFL to ASYF7B
  SYFMIN7B = ASYF7B
  SYFMAX7B = ASYF7B
  SYFSD7B = 0
if NSYF7B > 0
  go top
  do while .not. EOF()
    SYFMIN7B = min(SYFMIN7B,YFL)
    SYFMAX7B = max(SYFMAX7B,YFL)
    SYFSD7B = SYFSD7B + (YFL-ASYF7B)*(YFL-ASYF7B)
    skip
  enddo
```

```
endif
if NSYF7B <> 1
  SYFSD7B = sqrt((SYFSD7B)/(NSYF7B-1))
else
  SYFSD7B = 0
endif
@ 2,50 say 'WORKING ... ( 5)'
use pslfl
eras syf7b.dbf
copy to sbe7b for VT = 'SE' .and. BEL > 0 .and. FAO = '77B'
use sbe7b
  count to NSBE7B
  aver BEL to ASBE7B
  SBEMIN7B = ASBE7B
  SBEMAX7B = ASBE7B
  SBESD7B = 0
if NSBE7B > 0
  go top
  do while .not. EOF()
    SBEMIN7B = min(SBEMIN7B,BEL)
    SBEMAX7B = max(SBEMAX7B,BEL)
    SBESD7B = SBESD7B + (BEL-ASBE7B)*(BEL-ASBE7B)
    skip
  enddo
endif
if NSBE7B <> 1
  SBESD7B = sqrt((SBESD7B)/(NSBE7B-1))
else
  SBESD7B = 0
endif
@ 2,50 say 'WORKING ... ( 4)'
use pslfl
eras sbe7b.dbf
copy to ssj7 for VT = 'SE' .and. SJL > 0 .and. FAO = '77 '
use ssj7
  count to NSSJ7
  aver SJL to ASSJ7
  SSJMIN7 = ASSJ7
  SSJMAX7 = ASSJ7
  SSJSD7 = 0
if NSSJ7 > 0
  go top
  do while .not. EOF()
    SSJMIN7 = min(SSJMIN7,SJL)
    SSJMAX7 = max(SSJMAX7,SJL)
    SSJSD7 = SSJSD7 + (SJL-ASSJ7)*(SJL-ASSJ7)
    skip
  enddo
endif
if NSSJ7 <> 1
  SSJSD7 = sqrt((SSJSD7)/(NSSJ7-1))
else
```

```
  SSJSD7 = 0
endif
@ 2,50 say 'WORKING ... ( 3)'
use pslfl
eras ssj7.dbf
copy to syf7 for VT = 'SE' .and. YFL > 0 .and. FAO = '77 '
use syf7
  count to NSYF7
  aver YFL to ASYF7
  SYFMIN7 = ASYF7
  SYFMAX7 = ASYF7
  SYFSD7 = 0
if NSYF7 > 0
  go top
  do while .not. EOF()
    SYFMIN7 = min(SYFMIN7,YFL)
    SYFMAX7 = max(SYFMAX7,YFL)
    SYFSD7 = SYFSD7 + (YFL-ASYF7)*(YFL-ASYF7)
    skip
  enddo
endif
if NSYF7 <> 1
  SYFSD7 = sqrt((SYFSD7)/(NSYF7-1))
else
  SYFSD7 = 0
endif
@ 2,50 say 'WORKING ... ( 2)'
use pslfl
eras syf7.dbf
copy to sbe7 for VT = 'SE' .and. BEL > 0 .and. FAO = '77 '
use sbe7
  count to NSBE7
  aver BEL to ASBE7
  SBEMIN7 = ASBE7
  SBEMAX7 = ASBE7
  SBESD7 = 0
if NSBE7 > 0
  go top
  do while .not. EOF()
    SBEMIN7 = min(SBEMIN7,BEL)
    SBEMAX7 = max(SBEMAX7,BEL)
    SBESD7 = SBESD7 + (BEL-ASBE7)*(BEL-ASBE7)
    skip
  enddo
endif
if NSBE7 <> 1
  SBESD7 = sqrt((SBESD7)/(NSBE7-1))
else
  SBESD7 = 0
endif
@ 2,50 say 'WORKING ... ( 1)'
use pslfl
```

```
        eras sbe7.dbf
        use
        eras ssj7.dbf
        erase ps1f1.dbf
@ 1,1 clear to 11,70
@ 13,1 clear to 13,70
@ 2,6 say "DO YOU WANT THE OUTPUT SENT TO THE " +;
          "PRINTER OR THE SCREEN? (P/S)"
@ 3,6 say '(WARNING : PRINTER MUST BE READY FOR OPTION P.)'
pr = " "
do while .not. pr$"PpSs"
    pr = " "
    @ 2,70 get pr
    read
enddo
if upper(pr) = "P"
    set device to print
    set device to print
    @ 2,20 say "PURSE SEINE LENGTH-FREQUENCY REPORT"
    do case
        case opt = '1'
            @ 6,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 6,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 6,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 6,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 6,6 say "ANNUAL REPORT    19"  + year
    endcase
        @ 6,52 say '(MEASUREMENTS IN MM)'
        @ 8,35 say 'AREA: 71A'
        @ 10,10 say 'SPECIES           N      AVERAGE      S D       MIN
        @ 12,8 say "SKIPJACK"
        @ 12,25 say NSSJ1A pict '99999'
        @ 12,35 say ASSJ1A pict '9999.99'
        @ 12,45 say SSJSD1A pict '9999.99'
        @ 12,55 say SSJMIN1A pict '9999.99'
        @ 12,65 say SSJMAX1A pict '9999.99'
        @ 14,8 say "YELLOWFIN"
        @ 14,25 say NSYF1A pict '99999'
        @ 14,35 say ASYF1A pict '9999.99'
        @ 14,45 say SYFSD1A pict '9999.99'
        @ 14,55 say SYFMIN1A pict '9999.99'
        @ 14,65 say SYFMAX1A pict '9999.99'
        @ 16,8 say "BIGEYE                          "
        @ 16,25 say NSBE1A pict '99999'
        @ 16,35 say ASBE1A pict '9999.99'
        @ 16,45 say SBESD1A pict '9999.99'
        @ 16,55 say SBEMIN1A pict '9999.99'
        @ 16,65 say SBEMAX1A pict '9999.99'
```

```
@ 18,35 say 'AREA: 71B'
@ 20,10 say 'SPECIES           N      AVERAGE      S D       MIN       MAX'
@ 22,8 say "SKIPJACK"
@ 22,25 say NSSJ1B pict '99999'
@ 22,35 say ASSJ1B pict '9999.99'
@ 22,45 say SSJSD1B pict '9999.99'
@ 22,55 say SSJMIN1B pict '9999.99'
@ 22,65 say SSJMAX1B pict '9999.99'
@ 24,8 say "YELLOWFIN"
@ 24,25 say NSYF1B pict '99999'
@ 24,35 say ASYF1B pict '9999.99'
@ 24,45 say SYFSD1B pict '9999.99'
@ 24,55 say SYFMIN1B pict '9999.99'
@ 24,65 say SYFMAX1B pict '9999.99'
@ 26,8 say "BIGEYE                  "
@ 26,25 say NSBE1B pict '99999'
@ 26,35 say ASBE1B pict '9999.99'
@ 26,45 say SBESD1B pict '9999.99'
@ 26,55 say SBEMIN1B pict '9999.99'
@ 26,65 say SBEMAX1B pict '9999.99'
@ 28,35 say 'AREA: 71'
@ 30,10 say 'SPECIES           N      AVERAGE      S D       MIN       MAX'
@ 32,8 say "SKIPJACK"
@ 32,25 say NSSJ1 pict '99999'
@ 32,35 say ASSJ1 pict '9999.99'
@ 32,45 say SSJSD1 pict '9999.99'
@ 32,55 say SSJMIN1 pict '9999.99'
@ 32,65 say SSJMAX1 pict '9999.99'
@ 34,8 say "YELLOWFIN"
@ 34,25 say NSYF1 pict '99999'
@ 34,35 say ASYF1 pict '9999.99'
@ 34,45 say SYFSD1 pict '9999.99'
@ 34,55 say SYFMIN1 pict '9999.99'
@ 34,65 say SYFMAX1 pict '9999.99'
@ 36,8 say "BIGEYE                  "
@ 36,25 say NSBE1 pict '99999'
@ 36,35 say ASBE1 pict '9999.99'
@ 36,45 say SBESD1 pict '9999.99'
@ 36,55 say SBEMIN1 pict '9999.99'
@ 36,65 say SBEMAX1 pict '9999.99'
@ 38,35 say 'AREA: 77A'
@ 40,10 say 'SPECIES           N      AVERAGE      S D       MIN       MAX'
@ 42,8 say "SKIPJACK"
@ 42,25 say NSSJ7A pict '99999'
@ 42,35 say ASSJ7A pict '9999.99'
@ 42,45 say SSJSD7A pict '9999.99'
@ 42,55 say SSJMIN7A pict '9999.99'
@ 42,65 say SSJMAX7A pict '9999.99'
@ 44,8 say "YELLOWFIN"
@ 44,25 say NSYF7A pict '99999'
@ 44,35 say ASYF7A pict '9999.99'
@ 44,45 say SYFSD7A pict '9999.99'
```

```
        @ 44,55 say SYFMIN7A pict '9999.99'
        @ 44,65 say SYFMAX7A pict '9999.99'
        @ 46,8 say "BIGEYE                          "
        @ 46,25 say NSBE7A pict '99999'
        @ 46,35 say ASBE7A pict '9999.99'
        @ 46,45 say SBESD7A pict '9999.99'
        @ 46,55 say SBEMIN7A pict '9999.99'
        @ 46,65 say SBEMAX7A pict '9999.99'
        @ 48,35 say 'AREA: 77B'
        @ 50,10 say 'SPECIES           N      AVERAGE      S D       MIN
        @ 52,8 say "SKIPJACK"
        @ 52,25 say NSSJ7B pict '99999'
        @ 52,35 say ASSJ7B pict '9999.99'
        @ 52,45 say SSJSD7B pict '9999.99'
        @ 52,55 say SSJMIN7B pict '9999.99'
        @ 52,65 say SSJMAX7B pict '9999.99'
        @ 54,8 say "YELLOWFIN"
        @ 54,25 say NSYF7B pict '99999'
        @ 54,35 say ASYF7B pict '9999.99'
        @ 54,45 say SYFSD7B pict '9999.99'
        @ 54,55 say SYFMIN7B pict '9999.99'
        @ 54,65 say SYFMAX7B pict '9999.99'
        @ 56,8 say "BIGEYE                          "
        @ 56,25 say NSBE7B pict '99999'
        @ 56,35 say ASBE7B pict '9999.99'
        @ 56,45 say SBESD7B pict '9999.99'
        @ 56,55 say SBEMIN7B pict '9999.99'
        @ 56,65 say SBEMAX7B pict '9999.99'
        @ 60,1 say chr(12)
        @ 8,35 say 'AREA 77'
        @ 10,10 say 'SPECIES           N      AVERAGE      S D       MIN
        @ 12,8 say "SKIPJACK"
        @ 12,25 say NSSJ7 pict '99999'
        @ 12,35 say ASSJ7 pict '9999.99'
        @ 12,45 say SSJSD7 pict '9999.99'
        @ 12,55 say SSJMIN7 pict '9999.99'
        @ 12,65 say SSJMAX7 pict '9999.99'
        @ 14,8 say "YELLOWFIN"
        @ 14,25 say NSYF7 pict '99999'
        @ 14,35 say ASYF7 pict '9999.99'
        @ 14,45 say SYFSD7 pict '9999.99'
        @ 14,55 say SYFMIN7 pict '9999.99'
        @ 14,65 say SYFMAX7 pict '9999.99'
        @ 16,8 say "BIGEYE                          "
        @ 16,25 say NSBE7 pict '99999'
        @ 16,35 say ASBE7 pict '9999.99'
        @ 16,45 say SBESD7 pict '9999.99'
        @ 16,55 say SBEMIN7 pict '9999.99'
        @ 16,65 say SBEMAX7 pict '9999.99'
        @ 20,1 say chr(12)
    set device to screen
else
```

```
    @ 14,20 say "PURSE SEINE LENGTH-FREQUENCY REPORT BY AREA"
    do case
        case opt = '1'
            @ 15,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 15,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 15,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 15,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 15,6 say "ANNUAL REPORT    19"  + year
    endcase
        @ 15,40 say 'AREA: 71A'
        @ 15,55 say '(MEASUREMENTS IN MM)'
        @ 16,8 say 'SPECIES       N       AVERAGE       S D       MIN       MAX'
        @ 18,8 say 'SKIPJACK'
        @ 18,20 say NSSJ1A pict '99999'
        @ 18,30 say ASSJ1A pict '9999.99'
        @ 18,40 say SSJSD1A pict '9999.99'
        @ 18,50 say SSJMIN1A pict '9999.99'
        @ 18,60 say SSJMAX1A pict '9999.99'
        @ 19,8 say 'YELLOWFIN'
        @ 19,20 say NSYF1A pict '99999'
        @ 19,30 say ASYF1A pict '9999.99'
        @ 19,40 say SYFSD1A pict '9999.99'
        @ 19,50 say SYFMIN1A pict '9999.99'
        @ 19,60 say SYFMAX1A pict '9999.99'
        @ 20,8 say 'BIGEYE'
        @ 20,20 say NSBE1A pict '99999'
        @ 20,30 say ASBE1A pict '9999.99'
        @ 20,40 say SBESD1A pict '9999.99'
        @ 20,50 say SBEMIN1A pict '9999.99'
        @ 20,60 say SBEMAX1A pict '9999.99'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,40 say 'AREA: 71B'
        @ 16,8 say 'SPECIES       N       AVERAGE       S D       MIN       MAX'
        @ 18,8 say 'SKIPJACK'
        @ 18,20 say NSSJ1B pict '99999'
        @ 18,30 say ASSJ1B pict '9999.99'
        @ 18,40 say SSJSD1B pict '9999.99'
        @ 18,50 say SSJMIN1B pict '9999.99'
        @ 18,60 say SSJMAX1B pict '9999.99'
        @ 19,8 say 'YELLOWFIN'
        @ 19,20 say NSYF1B pict '99999'
        @ 19,30 say ASYF1B pict '9999.99'
        @ 19,40 say SYFSD1B pict '9999.99'
        @ 19,50 say SYFMIN1B pict '9999.99'
```

```
        @ 19,60 say SYFMAX1B pict '9999.99'
        @ 20,8 say 'BIGEYE'
        @ 20,20 say NSBE1B pict '99999'
        @ 20,30 say ASBE1B pict '9999.99'
        @ 20,40 say SBESD1B pict '9999.99'
        @ 20,50 say SBEMIN1B pict '9999.99'
        @ 20,60 say SBEMAX1B pict '9999.99'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,40 say 'AREA: 71 '
        @ 16,8 say 'SPECIES       N       AVERAGE       S D       MIN       M
        @ 18,8 say 'SKIPJACK'
        @ 18,20 say NSSJ1  pict '99999'
        @ 18,30 say ASSJ1  pict '9999.99'
        @ 18,40 say SSJSD1  pict '9999.99'
        @ 18,50 say SSJMIN1  pict '9999.99'
        @ 18,60 say SSJMAX1  pict '9999.99'
        @ 19,8 say 'YELLOWFIN'
        @ 19,20 say NSYF1  pict '99999'
        @ 19,30 say ASYF1  pict '9999.99'
        @ 19,40 say SYFSD1  pict '9999.99'
        @ 19,50 say SYFMIN1  pict '9999.99'
        @ 19,60 say SYFMAX1  pict '9999.99'
        @ 20,8 say 'BIGEYE'
        @ 20,20 say NSBE1  pict '99999'
        @ 20,30 say ASBE1  pict '9999.99'
        @ 20,40 say SBESD1  pict '9999.99'
        @ 20,50 say SBEMIN1  pict '9999.99'
        @ 20,60 say SBEMAX1  pict '9999.99'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,40 say 'AREA: 77A'
        @ 16,8 say 'SPECIES       N       AVERAGE       S D       MIN       M
        @ 18,8 say 'SKIPJACK'
        @ 18,20 say NSSJ7A pict '99999'
        @ 18,30 say ASSJ7A pict '9999.99'
        @ 18,40 say SSJSD7A pict '9999.99'
        @ 18,50 say SSJMIN7A pict '9999.99'
        @ 18,60 say SSJMAX7A pict '9999.99'
        @ 19,8 say 'YELLOWFIN'
        @ 19,20 say NSYF7A pict '99999'
        @ 19,30 say ASYF7A pict '9999.99'
        @ 19,40 say SYFSD7A pict '9999.99'
        @ 19,50 say SYFMIN7A pict '9999.99'
        @ 19,60 say SYFMAX7A pict '9999.99'
        @ 20,8 say 'BIGEYE'
```

```
        @ 20,20 say NSBE7A pict '99999'
        @ 20,30 say ASBE7A pict '9999.99'
        @ 20,40 say SBESD7A pict '9999.99'
        @ 20,50 say SBEMIN7A pict '9999.99'
        @ 20,60 say SBEMAX7A pict '9999.99'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,40 say 'AREA: 77B'
        @ 16,8 say 'SPECIES       N       AVERAGE       S D       MIN       MAX'
        @ 18,8 say 'SKIPJACK'
        @ 18,20 say NSSJ7B pict '99999'
        @ 18,30 say ASSJ7B pict '9999.99'
        @ 18,40 say SSJSD7B pict '9999.99'
        @ 18,50 say SSJMIN7B pict '9999.99'
        @ 18,60 say SSJMAX7B pict '9999.99'
        @ 19,8 say 'YELLOWFIN'
        @ 19,20 say NSYF7B pict '99999'
        @ 19,30 say ASYF7B pict '9999.99'
        @ 19,40 say SYFSD7B pict '9999.99'
        @ 19,50 say SYFMIN7B pict '9999.99'
        @ 19,60 say SYFMAX7B pict '9999.99'
        @ 20,8 say 'BIGEYE'
        @ 20,20 say NSBE7B pict '99999'
        @ 20,30 say ASBE7B pict '9999.99'
        @ 20,40 say SBESD7B pict '9999.99'
        @ 20,50 say SBEMIN7B pict '9999.99'
        @ 20,60 say SBEMAX7B pict '9999.99'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 15,50 clear to 23,78
        @ 15,40 say 'AREA: 77 '
        @ 16,8 say 'SPECIES       N       AVERAGE       S D       MIN       MAX'
        @ 18,8 say 'SKIPJACK'
        @ 18,20 say NSSJ7  pict '99999'
        @ 18,30 say ASSJ7  pict '9999.99'
        @ 18,40 say SSJSD7  pict '9999.99'
        @ 18,50 say SSJMIN7  pict '9999.99'
        @ 18,60 say SSJMAX7  pict '9999.99'
        @ 19,8 say 'YELLOWFIN'
        @ 19,20 say NSYF7  pict '99999'
        @ 19,30 say ASYF7  pict '9999.99'
        @ 19,40 say SYFSD7  pict '9999.99'
        @ 19,50 say SYFMIN7  pict '9999.99'
        @ 19,60 say SYFMAX7  pict '9999.99'
        @ 20,8 say 'BIGEYE'
        @ 20,20 say NSBE7  pict '99999'
        @ 20,30 say ASBE7  pict '9999.99'
```

```
        @ 20,40 say SBESD7  pict '9999.99'
        @ 20,50 say SBEMIN7  pict '9999.99'
        @ 20,60 say SBEMAX7  pict '9999.99'
@ 10,10 say 'PRESS ANY KEY'
set cons off
wait
set cons on
@ 13,1 clear to 23,78
endif
enddo
clear
return
```

```
*HISTO*
set echo off
set talk off
set deleted on
set help off
set status off
*
*  delete work files from any previously aborted runs  *
    erase sbe.dbf
    erase pslfl.dbf
    erase ssj.dbf
    erase syf.dbf
*
*********************************************************************
*MODULE TO PRODUCE LENGTH-FREQUENCY HISTOGRAM REPORTS. EACH REPORT
*WILL STATE THE NUMBER OF FISH SAMPLED (N), AND LIST THE NUMBER OF
*FISH FALLING INTO INCREMENTAL 50MM HISTOGRAM BINS, MINIMUM FOR
*SKIPJACK, YELLOWFIN, AND BIGEYE. ALL LENGTHS ARE GIVEN IN
*MILLIMETERS. OPTIONS ARE FOR ANY OF FOUR QUARTERS OR FOR AN ENTIRE
*YEAR (ANNUAL). DBF FILES USED TO PRODUCE REPORTS ARE AS FOLLOWS:
*
*  RP.DBF      DB VERSION OF ENTIRE INPUT FILE
*  RPST.DBF    RP STRUCTURE FILE, WITH THE FOLLOWING FIELDS:
*
*                DSN          DATA SET NAME (RP043AA1)  8
*                VN           VESSEL NAME              20
*                VT           VESSEL TYPE               2
*                NA           NATIONALITY               2
*                SS           SAMPLING SITE            15
*                             SAMPLING DATE:
*                SYY            YEAR                    2
*                MM             MONTH                   2
*                DD             DAY                     2
*                             ARRIVAL DATE:
*                YY             YEAR                    2
*                MM             MONTH                   2
*                DD             DAY                     2
*                HN           WELL/HOLD NO.             3
*                FAO          CAPTURE AREA CODE         3
*                CA           CAPTURE AREA NAME        20
*                NO           NO.                       3
*                SJL          SKIPJACK LENGTH (MM)      4
*                YFL          YELLOWFIN LENGTH (MM)     4
*                BEL          BIGEYE LENGTH (MM)        4
*                OTHER1       OTHER                     4
*                OTHER2       OTHER                     4
*                BLANK        BLANK FIELD               8
*                BATCH        BATCH NUMBER              6
*                SEQNUM       SEQUENCE NUMBER           8
*
*  PSLF.DBF    RP SUBFILE CONTAINING ONLY FIELDS USED FOR THE
*              FINAL REPORTS
```

```
*  PSLFST.DBF  PSLF STRUCTURE FILE
*                 (VN,VT,SYY,SMM,SDD,FAO,SJL,YFL,BEL,OTHER1,OTHER2)
*  PSLF1.DBF   PSLF SUBFILE USED TO PRODUCE FINAL REPORTS.
*              WILL CONTAIN ONE OF FOUR QUARTERS OR ELSE
*              ENTIRE YEAR OF CPST DATA.
*
*********************************************************************
clear
@ 0,0 to 24,79 double
@ 12,1 to 12,78 double
@ 2,2 say 'PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT'
@ 3,2 say 'EXTERNAL (ASCII) FILE SPECIFICATION SHOULD CONTAIN
PATH AND EXTENSION'
fn = space(20)
@ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
read
store ltrim(trim(fn)) to fn1
use rp
do while len(fn1) > 0
    if file(fn1)
        @ 1,1 clear to 11,78
        @ 13,1 clear to 13,78
        @ 2,60 say 'WORKING ... (3)'
        append from &fn1 sdf          && APPENDING FROM ASCII FILE
        exit
    else
        @ 1,1 clear to 11,78
        @ 13,1 clear to 23,78
        @ 3,2 say 'FILE ' + fn1 + ' NOT FOUND'
        @ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
        read
        store ltrim(trim(fn)) to fn1
    endif
enddo
store SYY to year
@ 2,2 say 'TEMPORARY FILE RP.DBF IN USE          '
@ 2,60 say 'WORKING ... (2)'
use pslf
delete all
pack
append from rp
@ 2,2 say 'PURSE SEINE LENGTH-FREQUENCY DBASE FILE CREATED'
@ 2,60 say 'WORKING ... (1)'
use rp
delete all
pack
@ 2,2 say 'TEMPORARY FILE RP.DBF DELETED                  '
* 1,1 clear to 11,78
* 13,1 clear to 13,78
doflag = 1
do while doflag = 1
opt = space(1)
```

```
use pslf
@ 1,1 clear to 11,78
@ 13,1 clear to 23,78
@ 2,5 say 'AVAILABLE REPORT OPTIONS'
@ 4,5 say '  1  WINTER QUARTER (JAN-MAR)'
@ 5,5 say '  2  SPRING QUARTER (APR-JUN)'
@ 6,5 say '  3  SUMMER QUARTER (JUL-SEP)'
@ 7,5 say '  4  FALL QUARTER   (OCT-DEC)'
@ 8,5 say '  5  ANNUAL REPORT '
@ 9,5 say '  X  EXIT '

do while .not. opt$'12345Xx'
    @ 11,5 say 'SELECT REPORT OPTION BY NUMBER : ' get opt
    read
enddo
@ 2,50 say 'WORKING ... (*)'
do case
    case opt = '1'
        copy to pslf1 for val(SMM) >= 1 .and. val(SMM) <= 3
    case opt = '2'
        copy to pslf1 for val(SMM) >= 4 .and. val(SMM) <= 6
    case opt = '3'
        copy to pslf1 for val(SMM) >= 7 .and. val(SMM) <= 9
    case opt = '4'
        copy to pslf1 for val(SMM) >= 10 .and. val(SMM) <= 12
    case opt = '5'
        copy to pslf1
    case opt$'Xx'
        doflag = 0
        exit
endcase
        @ 2,50 say 'WORKING ... (.)'
        use pslf1
        count to NPSLF1
        count for VT = 'SE' .and. SJL > 0 to NSSJ
        count for VT = 'SE' .and. YFL > 0 to NSYF
        count for VT = 'SE' .and. BEL > 0 to NSBE
*INITIATE BINS*
        SJ0 = 0
        SJ1 = 0
        SJ2 = 0
        SJ3 = 0
        SJ4 = 0
        SJ5 = 0
        SJ6 = 0
        SJ7 = 0
        SJ8 = 0
        SJ9 = 0
        SJ10 = 0
        SJ11 = 0
        SJ12 = 0
        SJ13 = 0
```

```
      SJ14 = 0
      SJ15 = 0
      SJ16 = 0
      SJ17 = 0
      SJ18 = 0
      SJ19 = 0
      SJ20 = 0
      SJ21 = 0
      SJ22 = 0
      SJ23 = 0
      SJ24 = 0
*      SJ25 = 0
      SJOUT = 0
      YF0 = 0
      YF1 = 0
      YF2 = 0
      YF3 = 0
      YF4 = 0
      YF5 = 0
      YF6 = 0
      YF7 = 0
      YF8 = 0
      YF9 = 0
      YF10 = 0
      YF11 = 0
      YF12 = 0
      YF13 = 0
      YF14 = 0
      YF15 = 0
      YF16 = 0
      YF17 = 0
      YF18 = 0
      YF19 = 0
      YF20 = 0
      YF21 = 0
      YF22 = 0
      YF23 = 0
      YF24 = 0
      YF25 = 0
      YF26 = 0
      YF27 = 0
      YF28 = 0
      YF29 = 0
      YF30 = 0
      YF31 = 0
      YF32 = 0
      YF33 = 0
      YF34 = 0
      YF35 = 0
      YF36 = 0
      YF37 = 0
      YF38 = 0
```

```
        YF39 = 0
        YF40 = 0
        YFOUT = 0
        BE0 = 0
        BE1 = 0
        BE2 = 0
        BE3 = 0
        BE4 = 0
        BE5 = 0
        BE6 = 0
        BE7 = 0
        BE8 = 0
        BE9 = 0
        BE10 = 0
        BE11 = 0
        BE12 = 0
        BE13 = 0
        BE14 = 0
        BE15 = 0
        BE16 = 0
        BE17 = 0
        BE18 = 0
        BE19 = 0
        BE20 = 0
        BE21 = 0
        BE22 = 0
        BE23 = 0
        BE24 = 0
        BE25 = 0
        BE26 = 0
        BE27 = 0
        BE28 = 0
        BE29 = 0
        BE30 = 0
        BE31 = 0
        BE32 = 0
        BE33 = 0
        BE34 = 0
        BE35 = 0
        BE36 = 0
        BE37 = 0
        BE38 = 0
        BE39 = 0
        BE40 = 0
        BE41 = 0
        BE42 = 0
        BEOUT = 0
        NCOUNT = NPSLF1
        go top
do while .not. EOF()
    do case
        case SJL <= 0
```

```
            SJ0 = SJ0 + 1
          case SJL > 0 .and. SJL <= 50
            SJ1 = SJ1 + 1
          case SJL > 50 .and. SJL <= 100
            SJ2 = SJ2 + 1
          case SJL > 100 .and. SJL <= 150
            SJ3 = SJ3 + 1
          case SJL > 150 .and. SJL <= 200
            SJ4 = SJ4 + 1
          case SJL > 200 .and. SJL <= 250
            SJ5 = SJ5 + 1
          case SJL > 250 .and. SJL <= 300
            SJ6 = SJ6 + 1
          case SJL > 300 .and. SJL <= 350
            SJ7 = SJ7 + 1
          case SJL > 350 .and. SJL <= 400
            SJ8 = SJ8 + 1
          case SJL > 400 .and. SJL <= 450
            SJ9 = SJ9 + 1
          case SJL > 450 .and. SJL <= 500
            SJ10 = SJ10 + 1
          case SJL > 500 .and. SJL <= 550
            SJ11 = SJ11 + 1
          case SJL > 550 .and. SJL <= 600
            SJ12 = SJ12 + 1
          case SJL > 600 .and. SJL <= 650
            SJ13 = SJ13 + 1
          case SJL > 650 .and. SJL <= 700
            SJ14 = SJ14 + 1
          case SJL > 700 .and. SJL <= 750
            SJ15 = SJ15 + 1
          case SJL > 750 .and. SJL <= 800
            SJ16 = SJ16 + 1
          case SJL > 800 .and. SJL <= 850
            SJ17 = SJ17 + 1
          case SJL > 850 .and. SJL <= 900
            SJ18 = SJ18 + 1
          case SJL > 900 .and. SJL <= 950
            SJ19 = SJ19 + 1
          case SJL > 950 .and. SJL <= 1000
            SJ20 = SJ20 + 1
          case SJL > 1000 .and. SJL <= 1050
            SJ21 = SJ21 + 1
          case SJL > 1050 .and. SJL <= 1100
            SJ22 = SJ22 + 1
          case SJL > 1100 .and. SJL <= 1150
            SJ23 = SJ23 + 1
          case SJL > 1150 .and. SJL <= 1200
            SJ24 = SJ24 + 1
*          case SJL > 1200 .and. SJL <= 1250
*            SJ25 = SJ25 + 1
          otherwise
```

```
        SJOUT = SJOUT + 1
endcase
do case
    case YFL <= 0
        YF0 = YF0 + 1
    case YFL > 0 .and. YFL <= 50
        YF1 = YF1 + 1
    case YFL > 50 .and. YFL <= 100
        YF2 = YF2 + 1
    case YFL > 100 .and. YFL <= 150
        YF3 = YF3 + 1
    case YFL > 150 .and. YFL <= 200
        YF4 = YF4 + 1
    case YFL > 200 .and. YFL <= 250
        YF5 = YF5 + 1
    case YFL > 250 .and. YFL <= 300
        YF6 = YF6 + 1
    case YFL > 300 .and. YFL <= 350
        YF7 = YF7 + 1
    case YFL > 350 .and. YFL <= 400
        YF8 = YF8 + 1
    case YFL > 400 .and. YFL <= 450
        YF9 = YF9 + 1
    case YFL > 450 .and. YFL <= 500
        YF10 = YF10 + 1
    case YFL > 500 .and. YFL <= 550
        YF11 = YF11 + 1
    case YFL > 550 .and. YFL <= 600
        YF12 = YF12 + 1
    case YFL > 600 .and. YFL <= 650
        YF13 = YF13 + 1
    case YFL > 650 .and. YFL <= 700
        YF14 = YF14 + 1
    case YFL > 700 .and. YFL <= 750
        YF15 = YF15 + 1
    case YFL > 750 .and. YFL <= 800
        YF16 = YF16 + 1
    case YFL > 800 .and. YFL <= 850
        YF17 = YF17 + 1
    case YFL > 850 .and. YFL <= 900
        YF18 = YF18 + 1
    case YFL > 900 .and. YFL <= 950
        YF19 = YF19 + 1
    case YFL > 950 .and. YFL <= 1000
        YF20 = YF20 + 1
    case YFL > 1000 .and. YFL <= 1050
        YF21 = YF21 + 1
    case YFL > 1050 .and. YFL <= 1100
        YF22 = YF22 + 1
    case YFL > 1100 .and. YFL <= 1150
        YF23 = YF23 + 1
    case YFL > 1150 .and. YFL <= 1200
```

```
        YF24 = YF24 + 1
    case YFL > 1200 .and. YFL <= 1250
        YF25 = YF25 + 1
    case YFL > 1250 .and. YFL <= 1300
        YF26 = YF26 + 1
    case YFL > 1300 .and. YFL <= 1350
        YF27 = YF27 + 1
    case YFL > 1350 .and. YFL <= 1400
        YF28 = YF28 + 1
    case YFL > 1400 .and. YFL <= 1450
        YF29 = YF29 + 1
    case YFL > 1450 .and. YFL <= 1500
        YF30 = YF30 + 1
    case YFL > 1500 .and. YFL <= 1550
        YF31 = YF31 + 1
    case YFL > 1550 .and. YFL <= 1600
        YF32 = YF32 + 1
    case YFL > 1600 .and. YFL <= 1650
        YF33 = YF33 + 1
    case YFL > 1650 .and. YFL <= 1700
        YF34 = YF34 + 1
    case YFL > 1700 .and. YFL <= 1750
        YF35 = YF35 + 1
    case YFL > 1750 .and. YFL <= 1800
        YF36 = YF36 + 1
    case YFL > 1800 .and. YFL <= 1850
        YF37 = YF37 + 1
    case YFL > 1850 .and. YFL <= 1900
        YF38 = YF38 + 1
    case YFL > 1900 .and. YFL <= 1950
        YF39 = YF39 + 1
    case YFL > 1950 .and. YFL <= 2000
        YF40 = YF40 + 1
    otherwise
        YFOUT = YFOUT + 1
endcase
do case
    case BEL <= 0
        BE0 = BE0 + 1
    case BEL > 0 .and. BEL <= 50
        BE1 = BE1 + 1
    case BEL > 50 .and. BEL <= 100
        BE2 = BE2 + 1
    case BEL > 100 .and. BEL <= 150
        BE3 = BE3 + 1
    case BEL > 150 .and. BEL <= 200
        BE4 = BE4 + 1
    case BEL > 200 .and. BEL <= 250
        BE5 = BE5 + 1
    case BEL > 250 .and. BEL <= 300
        BE6 = BE6 + 1
    case BEL > 300 .and. BEL <= 350
```

```
    BE7 = BE7 + 1
case BEL > 350 .and. BEL <= 400
    BE8 = BE8 + 1
case BEL > 400 .and. BEL <= 450
    BE9 = BE9 + 1
case BEL > 450 .and. BEL <= 500
    BE10 = BE10 + 1
case BEL > 500 .and. BEL <= 550
    BE11 = BE11 + 1
case BEL > 550 .and. BEL <= 600
    BE12 = BE12 + 1
case BEL > 600 .and. BEL <= 650
    BE13 = BE13 + 1
case BEL > 650 .and. BEL <= 700
    BE14 = BE14 + 1
case BEL > 700 .and. BEL <= 750
    BE15 = BE15 + 1
case BEL > 750 .and. BEL <= 800
    BE16 = BE16 + 1
case BEL > 800 .and. BEL <= 850
    BE17 = BE17 + 1
case BEL > 850 .and. BEL <= 900
    BE18 = BE18 + 1
case BEL > 900 .and. BEL <= 950
    BE19 = BE19 + 1
case BEL > 950 .and. BEL <= 1000
    BE20 = BE20 + 1
case BEL > 1000 .and. BEL <= 1050
    BE21 = BE21 + 1
case BEL > 1050 .and. BEL <= 1100
    BE22 = BE22 + 1
case BEL > 1100 .and. BEL <= 1150
    BE23 = BE23 + 1
case BEL > 1150 .and. BEL <= 1200
    BE24 = BE24 + 1
case BEL > 1200 .and. BEL <= 1250
    BE25 = BE25 + 1
case BEL > 1250 .and. BEL <= 1300
    BE26 = BE26 + 1
case BEL > 1300 .and. BEL <= 1350
    BE27 = BE27 + 1
case BEL > 1350 .and. BEL <= 1400
    BE28 = BE28 + 1
case BEL > 1400 .and. BEL <= 1450
    BE29 = BE29 + 1
case BEL > 1450 .and. BEL <= 1500
    BE30 = BE30 + 1
case BEL > 1500 .and. BEL <= 1550
    BE31 = BE31 + 1
case BEL > 1550 .and. BEL <= 1600
    BE32 = BE32 + 1
case BEL > 1600 .and. BEL <= 1650
```

```
            BE33 = BE33 + 1
        case BEL > 1650 .and. BEL <= 1700
            BE34 = BE34 + 1
        case BEL > 1700 .and. BEL <= 1750
            BE35 = BE35 + 1
        case BEL > 1750 .and. BEL <= 1800
            BE36 = BE36 + 1
        case BEL > 1800 .and. BEL <= 1850
            BE37 = BE37 + 1
        case BEL > 1850 .and. BEL <= 1900
            BE38 = BE38 + 1
        case BEL > 1900 .and. BEL <= 1950
            BE39 = BE39 + 1
        case BEL > 1950 .and. BEL <= 2000
            BE40 = BE40 + 1
        case BEL > 2000 .and. BEL <= 2050
            BE41 = BE41 + 1
        case BEL > 2050 .and. BEL <= 2100
            BE42 = BE42 + 1
        otherwise
            BEOUT = BEOUT + 1
    endcase
    NCOUNT = NCOUNT - 1
    @ 3,50 say 'COUNTDOWN:'
    @ 3,60 say NCOUNT pict '99999'
    skip
enddo
erase ps1f1.dbf
@ 1,1 clear to 11,70
@ 13,1 clear to 13,70
@ 2,6 say "DO YOU WANT THE OUTPUT SENT TO THE " +;
          "PRINTER OR THE SCREEN? (P/S)"
@ 3,6 say '(WARNING : PRINTER MUST BE READY FOR OPTION P.)'
pr = " "
do while .not. pr$"PpSs"
    pr = " "
    @ 2,70 get pr
    read
enddo
if upper(pr) = "P"
    set device to print
    set device to print
    @ 2,20 say "PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT"
    do case
        case opt = '1'
            @ 5,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 5,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 5,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 5,6 say "OCTOBER-DECEMBER  19"  + year
```

```
    case opt = '5'
        @ 5,6 say "ANNUAL REPORT    19"  + year
endcase
    @ 8,6 say 'PARTITION (MM)        SKIPJACK      YELLOWFIN         BIGEYE  '
    @ 10,10 say '   0-  50  '
    @ 10,30 say SJ1 pict '99999'
    @ 10,45 say YF1 pict '99999'
    @ 10,60 say BE1 pict '99999'
    @ 11,10 say '  50- 100  '
    @ 11,30 say SJ2 pict '99999'
    @ 11,45 say YF2 pict '99999'
    @ 11,60 say BE2 pict '99999'
    @ 12,10 say ' 100- 150  '
    @ 12,30 say SJ3 pict '99999'
    @ 12,45 say YF3 pict '99999'
    @ 12,60 say BE3 pict '99999'
    @ 13,10 say ' 150- 200  '
    @ 13,30 say SJ4 pict '99999'
    @ 13,45 say YF4 pict '99999'
    @ 13,60 say BE4 pict '99999'
    @ 14,10 say ' 200- 250  '
    @ 14,30 say SJ5 pict '99999'
    @ 14,45 say YF5 pict '99999'
    @ 14,60 say BE5 pict '99999'
    @ 15,10 say ' 250- 300  '
    @ 15,30 say SJ6 pict '99999'
    @ 15,45 say YF6 pict '99999'
    @ 15,60 say BE6 pict '99999'
    @ 16,10 say ' 300- 350  '
    @ 16,30 say SJ7 pict '99999'
    @ 16,45 say YF7 pict '99999'
    @ 16,60 say BE7 pict '99999'
    @ 17,10 say ' 350- 400  '
    @ 17,30 say SJ8 pict '99999'
    @ 17,45 say YF8 pict '99999'
    @ 17,60 say BE8 pict '99999'
    @ 18,10 say ' 400- 450  '
    @ 18,30 say SJ9 pict '99999'
    @ 18,45 say YF9 pict '99999'
    @ 18,60 say BE9 pict '99999'
    @ 19,10 say ' 450- 500  '
    @ 19,30 say SJ10 pict '99999'
    @ 19,45 say YF10 pict '99999'
    @ 19,60 say BE10 pict '99999'
    @ 20,10 say ' 500- 550  '
    @ 20,30 say SJ11 pict '99999'
    @ 20,45 say YF11 pict '99999'
    @ 20,60 say BE11 pict '99999'
    @ 21,10 say ' 550- 600  '
    @ 21,30 say SJ12 pict '99999'
    @ 21,45 say YF12 pict '99999'
    @ 21,60 say BE12 pict '99999'
```

```
@ 22,10 say ' 600- 650  '
@ 22,30 say SJ13 pict '99999'
@ 22,45 say YF13 pict '99999'
@ 22,60 say BE13 pict '99999'
@ 23,10 say ' 650- 700  '
@ 23,30 say SJ14 pict '99999'
@ 23,45 say YF14 pict '99999'
@ 23,60 say BE14 pict '99999'
@ 24,10 say ' 700- 750  '
@ 24,30 say SJ15 pict '99999'
@ 24,45 say YF15 pict '99999'
@ 24,60 say BE15 pict '99999'
@ 25,10 say ' 750- 800  '
@ 25,30 say SJ16 pict '99999'
@ 25,45 say YF16 pict '99999'
@ 25,60 say BE16 pict '99999'
@ 26,10 say ' 800- 850  '
@ 26,30 say SJ17 pict '99999'
@ 26,45 say YF17 pict '99999'
@ 26,60 say BE17 pict '99999'
@ 27,10 say ' 850- 900  '
@ 27,30 say SJ18 pict '99999'
@ 27,45 say YF18 pict '99999'
@ 27,60 say BE18 pict '99999'
@ 28,10 say ' 900- 950  '
@ 28,30 say SJ19 pict '99999'
@ 28,45 say YF19 pict '99999'
@ 28,60 say BE19 pict '99999'
@ 29,10 say ' 950-1000 '
@ 29,30 say SJ20 pict '99999'
@ 29,45 say YF20 pict '99999'
@ 29,60 say BE20 pict '99999'
@ 30,10 say '1000-1050  '
@ 30,30 say SJ21 pict '99999'
@ 30,45 say YF21 pict '99999'
@ 30,60 say BE21 pict '99999'
@ 31,10 say '1050-1100  '
@ 31,30 say SJ22 pict '99999'
@ 31,45 say YF22 pict '99999'
@ 31,60 say BE22 pict '99999'
@ 32,10 say '1100-1150  '
@ 32,30 say SJ23 pict '99999'
@ 32,45 say YF23 pict '99999'
@ 32,60 say BE23 pict '99999'
@ 33,10 say '1150-1200  '
@ 33,30 say SJ24 pict '99999'
@ 33,45 say YF24 pict '99999'
@ 33,60 say BE24 pict '99999'
@ 34,10 say '1200-1250  '
*        @ 34,30 say SJ25 pict '99999'
         @ 34,30 say '/////'
         @ 34,45 say YF25 pict '99999'
```

```
         @ 34,60 say BE25 pict '99999'
         @ 35,10 say '1250-1300  '
*         @ 35,30 say SJ26 pict '99999'
         @ 35,45 say YF26 pict '99999'
         @ 35,60 say BE26 pict '99999'
         @ 36,10 say '1300-1350  '
*         @ 36,30 say SJ27 pict '99999'
         @ 36,45 say YF27 pict '99999'
         @ 36,60 say BE27 pict '99999'
         @ 37,10 say '1350-1400  '
*         @ 37,30 say SJ28 pict '99999'
         @ 37,45 say YF28 pict '99999'
         @ 37,60 say BE28 pict '99999'
         @ 38,10 say '1400-1450  '
*         @ 38,30 say SJ29 pict '99999'
         @ 38,45 say YF29 pict '99999'
         @ 38,60 say BE29 pict '99999'
         @ 39,10 say '1450-1500  '
*         @ 39,30 say SJ30 pict '99999'
         @ 39,45 say YF30 pict '99999'
         @ 39,60 say BE30 pict '99999'
         @ 40,10 say '1500-1550  '
*         @ 40,30 say SJ31 pict '99999'
         @ 40,45 say YF31 pict '99999'
         @ 40,60 say BE31 pict '99999'
         @ 41,10 say '1550-1600  '
*         @ 41,30 say SJ32 pict '99999'
         @ 41,45 say YF32 pict '99999'
         @ 41,60 say BE32 pict '99999'
         @ 42,10 say '1600-1650  '
*         @ 42,30 say SJ33 pict '99999'
         @ 42,45 say YF33 pict '99999'
         @ 42,60 say BE33 pict '99999'
         @ 43,10 say '1650-1700  '
*         @ 43,30 say SJ34 pict '99999'
         @ 43,45 say YF34 pict '99999'
         @ 43,60 say BE34 pict '99999'
         @ 44,10 say '1700-1750  '
*         @ 44,30 say SJ35 pict '99999'
         @ 44,45 say YF35 pict '99999'
         @ 44,60 say BE35 pict '99999'
         @ 45,10 say '1750-1800  '
*         @ 45,30 say SJ36 pict '99999'
         @ 45,45 say YF36 pict '99999'
         @ 45,60 say BE36 pict '99999'
         @ 46,10 say '1800-1850  '
*         @ 46,30 say SJ37 pict '99999'
         @ 46,45 say YF37 pict '99999'
         @ 46,60 say BE37 pict '99999'
         @ 47,10 say '1850-1900  '
*         @ 47,30 say SJ38 pict '99999'
         @ 47,45 say YF38 pict '99999'
```

```
        @ 47,60 say BE38 pict '99999'
        @ 48,10 say '1900-1950  '
*       @ 48,30 say SJ39 pict '99999'
        @ 48,45 say YF39 pict '99999'
        @ 48,60 say BE39 pict '99999'
        @ 49,10 say '1950-2000  '
*       @ 49,30 say SJ40 pict '99999'
        @ 49,45 say YF40 pict '99999'
        @ 49,60 say BE40 pict '99999'
        @ 50,10 say '2000-2050  '
*       @ 50,30 say SJ41 pict '99999'
*       @ 50,45 say YF41 pict '99999'
        @ 50,45 say '/////'
        @ 50,60 say BE41 pict '99999'
        @ 51,10 say '2050-2100  '
*       @ 51,30 say SJ42 pict '99999'
*       @ 51,45 say YF42 pict '99999'
        @ 51,60 say BE42 pict '99999'
*       @ 52,10 say '2100-2150  '
*       @ 52,30 say SJ43 pict '99999'
*       @ 52,45 say YF43 pict '99999'
*       @ 52,60 say BE43 pict '99999'
        @ 53,10 say ' OUTSIDE '
        @ 53,30 say SJOUT pict '99999'
        @ 53,45 say YFOUT pict '99999'
        @ 53,60 say BEOUT pict '99999'
        @ 54,10 say '  RANGE  '
        @ 56,10 say '  TOTAL'
        @ 56,30 say NSSJ pict '99999'
        @ 56,45 say NSYF pict '99999'
        @ 56,60 say NSBE pict '99999'
        @ 58,10 say chr(12)
    set device to screen
else
    @ 14,10 say "PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT"
    do case
        case opt = '1'
            @ 15,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 15,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 15,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 15,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 15,6 say "ANNUAL REPORT    19"  + year
    endcase
        @ 16,8 say 'PARTITION (MM)        SKIPJACK      YELLOWFIN        BIG
        @ 18,10 say '   0-  50  '
        @ 18,30 say SJ1 pict '99999'
        @ 18,45 say YF1 pict '99999'
        @ 18,60 say BE1 pict '99999'
```

```
        @ 19,10 say '  50- 100  '
        @ 19,30 say SJ2 pict '99999'
        @ 19,45 say YF2 pict '99999'
        @ 19,60 say BE2 pict '99999'
        @ 20,10 say ' 100- 150  '
        @ 20,30 say SJ3 pict '99999'
        @ 20,45 say YF3 pict '99999'
        @ 20,60 say BE3 pict '99999'
        @ 21,10 say ' 150- 200  '
        @ 21,30 say SJ4 pict '99999'
        @ 21,45 say YF4 pict '99999'
        @ 21,60 say BE4 pict '99999'
        @ 22,10 say ' 200- 250  '
        @ 22,30 say SJ5 pict '99999'
        @ 22,45 say YF5 pict '99999'
        @ 22,60 say BE5 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say ' 250- 300  '
        @ 18,30 say SJ6 pict '99999'
        @ 18,45 say YF6 pict '99999'
        @ 18,60 say BE6 pict '99999'
        @ 19,10 say ' 300- 350  '
        @ 19,30 say SJ7 pict '99999'
        @ 19,45 say YF7 pict '99999'
        @ 19,60 say BE7 pict '99999'
        @ 20,10 say ' 350- 400  '
        @ 20,30 say SJ8 pict '99999'
        @ 20,45 say YF8 pict '99999'
        @ 20,60 say BE8 pict '99999'
        @ 21,10 say ' 400- 450  '
        @ 21,30 say SJ9 pict '99999'
        @ 21,45 say YF9 pict '99999'
        @ 21,60 say BE9 pict '99999'
        @ 22,10 say ' 450- 500  '
        @ 22,30 say SJ10 pict '99999'
        @ 22,45 say YF10 pict '99999'
        @ 22,60 say BE10 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say ' 500- 550  '
        @ 18,30 say SJ11 pict '99999'
        @ 18,45 say YF11 pict '99999'
        @ 18,60 say BE11 pict '99999'
        @ 19,10 say ' 550- 600  '
        @ 19,30 say SJ12 pict '99999'
```

```
        @ 19,45 say YF12 pict '99999'
        @ 19,60 say BE12 pict '99999'
        @ 20,10 say ' 600- 650  '
        @ 20,30 say SJ13 pict '99999'
        @ 20,45 say YF13 pict '99999'
        @ 20,60 say BE13 pict '99999'
        @ 21,10 say ' 650- 700  '
        @ 21,30 say SJ14 pict '99999'
        @ 21,45 say YF14 pict '99999'
        @ 21,60 say BE14 pict '99999'
        @ 22,10 say ' 700- 750  '
        @ 22,30 say SJ15 pict '99999'
        @ 22,45 say YF15 pict '99999'
        @ 22,60 say BE15 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say ' 750- 800  '
        @ 18,30 say SJ16 pict '99999'
        @ 18,45 say YF16 pict '99999'
        @ 18,60 say BE16 pict '99999'
        @ 19,10 say ' 800- 850  '
        @ 19,30 say SJ17 pict '99999'
        @ 19,45 say YF17 pict '99999'
        @ 19,60 say BE17 pict '99999'
        @ 20,10 say ' 850- 900  '
        @ 20,30 say SJ18 pict '99999'
        @ 20,45 say YF18 pict '99999'
        @ 20,60 say BE18 pict '99999'
        @ 21,10 say ' 900- 950  '
        @ 21,30 say SJ19 pict '99999'
        @ 21,45 say YF19 pict '99999'
        @ 21,60 say BE19 pict '99999'
        @ 22,10 say ' 950-1000 '
        @ 22,30 say SJ20 pict '99999'
        @ 22,45 say YF20 pict '99999'
        @ 22,60 say BE20 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say '1000-1050  '
        @ 18,30 say SJ21 pict '99999'
        @ 18,45 say YF21 pict '99999'
        @ 18,60 say BE21 pict '99999'
        @ 19,10 say '1050-1100  '
        @ 19,30 say SJ22 pict '99999'
        @ 19,45 say YF22 pict '99999'
        @ 19,60 say BE22 pict '99999'
```

```
        @ 20,10 say '1100-1150  '
        @ 20,30 say SJ23 pict '99999'
        @ 20,45 say YF23 pict '99999'
        @ 20,60 say BE23 pict '99999'
        @ 21,10 say '1150-1200  '
        @ 21,30 say SJ24 pict '99999'
        @ 21,45 say YF24 pict '99999'
        @ 21,60 say BE24 pict '99999'
        @ 22,10 say '1200-1250  '
*        @ 22,30 say SJ25 pict '99999'
        @ 22,30 say '/////'
        @ 22,45 say YF25 pict '99999'
        @ 22,60 say BE25 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say '1250-1300  '
*        @ 18,30 say SJ26 pict '99999'
        @ 18,45 say YF26 pict '99999'
        @ 18,60 say BE26 pict '99999'
        @ 19,10 say '1300-1350  '
*        @ 19,30 say SJ27 pict '99999'
        @ 19,45 say YF27 pict '99999'
        @ 19,60 say BE27 pict '99999'
        @ 20,10 say '1350-1400  '
*        @ 20,30 say SJ28 pict '99999'
        @ 20,45 say YF28 pict '99999'
        @ 20,60 say BE28 pict '99999'
        @ 21,10 say '1400-1450  '
*        @ 21,30 say SJ29 pict '99999'
        @ 21,45 say YF29 pict '99999'
        @ 21,60 say BE29 pict '99999'
        @ 22,10 say '1450-1500  '
*        @ 22,30 say SJ30 pict '99999'
        @ 22,45 say YF30 pict '99999'
        @ 22,60 say BE30 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say '1500-1550  '
*        @ 18,30 say SJ31 pict '99999'
        @ 18,45 say YF31 pict '99999'
        @ 18,60 say BE31 pict '99999'
        @ 19,10 say '1550-1600  '
*        @ 19,30 say SJ32 pict '99999'
        @ 19,45 say YF32 pict '99999'
        @ 19,60 say BE32 pict '99999'
        @ 20,10 say '1600-1650  '
```

```
*        @ 20,30 say SJ33 pict '99999'
        @ 20,45 say YF33 pict '99999'
        @ 20,60 say BE33 pict '99999'
        @ 21,10 say '1650-1700  '
*        @ 21,30 say SJ34 pict '99999'
        @ 21,45 say YF34 pict '99999'
        @ 21,60 say BE34 pict '99999'
        @ 22,10 say '1700-1750  '
*        @ 22,30 say SJ35 pict '99999'
        @ 22,45 say YF35 pict '99999'
        @ 22,60 say BE35 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say '1750-1800  '
*        @ 18,30 say SJ36 pict '99999'
        @ 18,45 say YF36 pict '99999'
        @ 18,60 say BE36 pict '99999'
        @ 19,10 say '1800-1850  '
*        @ 19,30 say SJ37 pict '99999'
        @ 19,45 say YF37 pict '99999'
        @ 19,60 say BE37 pict '99999'
        @ 20,10 say '1850-1900  '
*        @ 20,30 say SJ38 pict '99999'
        @ 20,45 say YF38 pict '99999'
        @ 20,60 say BE38 pict '99999'
        @ 21,10 say '1900-1950  '
*        @ 21,30 say SJ39 pict '99999'
        @ 21,45 say YF39 pict '99999'
        @ 21,60 say BE39 pict '99999'
        @ 22,10 say '1950-2000  '
*        @ 22,30 say SJ40 pict '99999'
        @ 22,45 say YF40 pict '99999'
        @ 22,60 say BE40 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say '2000-2050  '
*        @ 18,30 say SJ41 pict '99999'
*        @ 18,45 say YF41 pict '99999'
        @ 18,45 say '/////'
        @ 18,60 say BE41 pict '99999'
        @ 19,10 say '2050-2100  '
*        @ 19,30 say SJ42 pict '99999'
*        @ 19,45 say YF42 pict '99999'
        @ 19,60 say BE42 pict '99999'
*        @ 20,10 say '2100-2150  '
*        @ 20,30 say SJ43 pict '99999'
```

```
*        @ 20,45 say YF43 pict '99999'
*        @ 20,60 say BE43 pict '99999'
        @ 21,10 say ' OUTSIDE '
        @ 21,30 say SJOUT pict '99999'
        @ 21,45 say YFOUT pict '99999'
        @ 21,60 say BEOUT pict '99999'
        @ 22,10 say '  RANGE  '
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 20,10 say '  TOTAL'
        @ 20,30 say NSSJ pict '99999'
        @ 20,45 say NSYF pict '99999'
        @ 20,60 say NSBE pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 13,1 clear to 23,78
endif
enddo
use pslf
dele all
pack
clear
return
```

```
*HISTOA*
set echo off
set talk off
set deleted on
set help off
set status off
*
*  delete work files from any previously aborted runs  *
    erase sbe.dbf
    erase pslfl.dbf
    erase ssj.dbf
    erase syf.dbf
*
*********************************************************************
*MODULE TO PRODUCE LENGTH-FREQUENCY HISTOGRAM REPORTS BY CATCH AREA
*(FAO AREAS ARE 71, 71A, 71B, 77, 77A, 77B).  EACH REPORT
*WILL STATE THE NUMBER OF FISH SAMPLED (N), AND LIST THE NUMBER OF
*FISH FALLING INTO INCREMENTAL 50MM HISTOGRAM BINS, MINIMUM FOR
*SKIPJACK, YELLOWFIN, AND BIGEYE. ALL LENGTHS ARE GIVEN IN
*MILLIMETERS. OPTIONS ARE FOR ANY OF FOUR QUARTERS OR FOR AN ENTIRE
*YEAR (ANNUAL). DBF FILES USED TO PRODUCE REPORTS ARE AS FOLLOWS:
*
*  RP.DBF      DB VERSION OF ENTIRE INPUT FILE
*  RPST.DBF    RP STRUCTURE FILE, WITH THE FOLLOWING FIELDS:
*
*                 DSN          DATA SET NAME (RP043AA1)  8
*                 VN           VESSEL NAME              20
*                 VT           VESSEL TYPE               2
*                 NA           NATIONALITY               2
*                 SS           SAMPLING SITE            15
*                              SAMPLING DATE:
*                 SYY            YEAR                    2
*                 MM             MONTH                   2
*                 DD             DAY                     2
*                              ARRIVAL DATE:
*                 YY             YEAR                    2
*                 MM             MONTH                   2
*                 DD             DAY                     2
*                 HN           WELL/HOLD NO.             3
*                 FAO          CAPTURE AREA CODE         3
*                 CA           CAPTURE AREA NAME        20
*                 NO           NO.                       3
*                 SJL          SKIPJACK LENGTH (MM)      4
*                 YFL          YELLOWFIN LENGTH (MM)     4
*                 BEL          BIGEYE LENGTH (MM)        4
*                 OTHER1       OTHER                     4
*                 OTHER2       OTHER                     4
*                 BLANK        BLANK FIELD               8
*                 BATCH        BATCH NUMBER              6
*                 SEQNUM       SEQUENCE NUMBER           8
*
*  PSLF.DBF    RP SUBFILE CONTAINING ONLY FIELDS USED FOR THE
```

```
*              FINAL REPORTS
*  PSLFST.DBF  PSLF STRUCTURE FILE
*                 (VN,VT,SYY,SMM,SDD,FAO,SJL,YFL,BEL,OTHER1,OTHER2)
*  PSLF1.DBF   PSLF SUBFILE USED TO PRODUCE FINAL REPORTS.
*              WILL CONTAIN ONE OF FOUR QUARTERS OR ELSE
*              ENTIRE YEAR OF CPST DATA.
*
*********************************************************************
clear
@ 0,0 to 24,79 double
@ 12,1 to 12,78 double
@ 2,2 say 'PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA'
@ 3,2 say 'EXTERNAL (ASCII) FILE SPECIFICATION SHOULD CONTAIN
PATH AND EXTENSION'
fn = space(20)
@ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
read
store ltrim(trim(fn)) to fn1
use rp
do while len(fn1) > 0
    if file(fn1)
        @ 1,1 clear to 11,78
        @ 13,1 clear to 13,78
        @ 2,60 say 'WORKING ... (3)'
        append from &fn1 sdf          && APPENDING FROM ASCII FILE
        exit
    else
        @ 1,1 clear to 11,78
        @ 13,1 clear to 23,78
        @ 3,2 say 'FILE ' + fn1 + ' NOT FOUND'
        @ 5,2 say 'ENTER EXTERNAL DATA FILENAME :' get fn
        read
        store ltrim(trim(fn)) to fn1
    endif
enddo
store SYY to year
@ 2,2 say 'TEMPORARY FILE RP.DBF IN USE          '
@ 2,60 say 'WORKING ... (2)'
use pslf
delete all
pack
append from rp
@ 2,2 say 'PURSE SEINE LENGTH-FREQUENCY DBASE FILE CREATED'
@ 2,60 say 'WORKING ... (1)'
use rp
delete all
pack
@ 2,2 say 'TEMPORARY FILE RP.DBF DELETED                '
* 1,1 clear to 11,78
* 13,1 clear to 13,78
doflag = 1
do while doflag = 1
```

```
opt = space(1)
use pslf
@ 1,1 clear to 11,78
@ 13,1 clear to 23,78
@ 2,5 say 'AVAILABLE REPORT OPTIONS'
@ 4,5 say '  1  WINTER QUARTER (JAN-MAR)'
@ 5,5 say '  2  SPRING QUARTER (APR-JUN)'
@ 6,5 say '  3  SUMMER QUARTER (JUL-SEP)'
@ 7,5 say '  4  FALL QUARTER   (OCT-DEC)'
@ 8,5 say '  5  ANNUAL REPORT '
@ 9,5 say '  X  EXIT '

do while .not. opt$'12345Xx'
    @ 11,5 say 'SELECT REPORT OPTION BY NUMBER : ' get opt
    read
enddo
@ 2,50 say 'WORKING ... (*)'
do case
    case opt = '1'
        copy to pslfl for val(SMM) >= 1 .and. val(SMM) <= 3
    case opt = '2'
        copy to pslfl for val(SMM) >= 4 .and. val(SMM) <= 6
    case opt = '3'
        copy to pslfl for val(SMM) >= 7 .and. val(SMM) <= 9
    case opt = '4'
        copy to pslfl for val(SMM) >= 10 .and. val(SMM) <= 12
    case opt = '5'
        copy to pslfl
    case opt$'Xx'
        doflag = 0
        exit
endcase
        @ 2,50 say 'WORKING ... (.)'
        use pslfl
IAREA = 1
  do while IAREA < 7
    do case
      case IAREA = 1
        AREA = '71A'
      case IAREA = 2
        AREA = '71B'
      case IAREA = 3
        AREA = ' 71'
      case IAREA = 4
        AREA = '77A'
      case IAREA = 5
        AREA = '77B'
      case IAREA = 6
        AREA = ' 77'
    endcase
    @ 8,50 say 'WORKING ON AREA ' + AREA
        count for FAO = AREA to NPSLFl
```

```
        count for VT = 'SE' .and. SJL > 0 .and. FAO = AREA to NSSJ
        count for VT = 'SE' .and. YFL > 0 .and. FAO = AREA to NSYF
        count for VT = 'SE' .and. BEL > 0 .and. FAO = AREA to NSBE
*INITIATE BINS*
        SJ0 = 0
        SJ1 = 0
        SJ2 = 0
        SJ3 = 0
        SJ4 = 0
        SJ5 = 0
        SJ6 = 0
        SJ7 = 0
        SJ8 = 0
        SJ9 = 0
        SJ10 = 0
        SJ11 = 0
        SJ12 = 0
        SJ13 = 0
        SJ14 = 0
        SJ15 = 0
        SJ16 = 0
        SJ17 = 0
        SJ18 = 0
        SJ19 = 0
        SJ20 = 0
        SJ21 = 0
        SJ22 = 0
        SJ23 = 0
        SJ24 = 0
*        SJ25 = 0
        SJOUT = 0
        YF0 = 0
        YF1 = 0
        YF2 = 0
        YF3 = 0
        YF4 = 0
        YF5 = 0
        YF6 = 0
        YF7 = 0
        YF8 = 0
        YF9 = 0
        YF10 = 0
        YF11 = 0
        YF12 = 0
        YF13 = 0
        YF14 = 0
        YF15 = 0
        YF16 = 0
        YF17 = 0
        YF18 = 0
        YF19 = 0
        YF20 = 0
```

```
YF21 = 0
YF22 = 0
YF23 = 0
YF24 = 0
YF25 = 0
YF26 = 0
YF27 = 0
YF28 = 0
YF29 = 0
YF30 = 0
YF31 = 0
YF32 = 0
YF33 = 0
YF34 = 0
YF35 = 0
YF36 = 0
YF37 = 0
YF38 = 0
YF39 = 0
YF40 = 0
YFOUT = 0
BE0 = 0
BE1 = 0
BE2 = 0
BE3 = 0
BE4 = 0
BE5 = 0
BE6 = 0
BE7 = 0
BE8 = 0
BE9 = 0
BE10 = 0
BE11 = 0
BE12 = 0
BE13 = 0
BE14 = 0
BE15 = 0
BE16 = 0
BE17 = 0
BE18 = 0
BE19 = 0
BE20 = 0
BE21 = 0
BE22 = 0
BE23 = 0
BE24 = 0
BE25 = 0
BE26 = 0
BE27 = 0
BE28 = 0
BE29 = 0
BE30 = 0
```

```
        BE31 = 0
        BE32 = 0
        BE33 = 0
        BE34 = 0
        BE35 = 0
        BE36 = 0
        BE37 = 0
        BE38 = 0
        BE39 = 0
        BE40 = 0
        BE41 = 0
        BE42 = 0
        BEOUT = 0
        NCOUNT = NPSLF1
        go top
loca for FA0 = AREA
  do while FA0 = AREA .and. .not. EOF()
    do case
        case SJL <= 0
            SJ0 = SJ0 + 1
        case SJL > 0 .and. SJL <= 50
            SJ1 = SJ1 + 1
        case SJL > 50 .and. SJL <= 100
            SJ2 = SJ2 + 1
        case SJL > 100 .and. SJL <= 150
            SJ3 = SJ3 + 1
        case SJL > 150 .and. SJL <= 200
            SJ4 = SJ4 + 1
        case SJL > 200 .and. SJL <= 250
            SJ5 = SJ5 + 1
        case SJL > 250 .and. SJL <= 300
            SJ6 = SJ6 + 1
        case SJL > 300 .and. SJL <= 350
            SJ7 = SJ7 + 1
        case SJL > 350 .and. SJL <= 400
            SJ8 = SJ8 + 1
        case SJL > 400 .and. SJL <= 450
            SJ9 = SJ9 + 1
        case SJL > 450 .and. SJL <= 500
            SJ10 = SJ10 + 1
        case SJL > 500 .and. SJL <= 550
            SJ11 = SJ11 + 1
        case SJL > 550 .and. SJL <= 600
            SJ12 = SJ12 + 1
        case SJL > 600 .and. SJL <= 650
            SJ13 = SJ13 + 1
        case SJL > 650 .and. SJL <= 700
            SJ14 = SJ14 + 1
        case SJL > 700 .and. SJL <= 750
            SJ15 = SJ15 + 1
        case SJL > 750 .and. SJL <= 800
            SJ16 = SJ16 + 1
```

```
            case SJL > 800 .and. SJL <= 850
                SJ17 = SJ17 + 1
            case SJL > 850 .and. SJL <= 900
                SJ18 = SJ18 + 1
            case SJL > 900 .and. SJL <= 950
                SJ19 = SJ19 + 1
            case SJL > 950 .and. SJL <= 1000
                SJ20 = SJ20 + 1
            case SJL > 1000 .and. SJL <= 1050
                SJ21 = SJ21 + 1
            case SJL > 1050 .and. SJL <= 1100
                SJ22 = SJ22 + 1
            case SJL > 1100 .and. SJL <= 1150
                SJ23 = SJ23 + 1
            case SJL > 1150 .and. SJL <= 1200
                SJ24 = SJ24 + 1
*           case SJL > 1200 .and. SJL <= 1250
*               SJ25 = SJ25 + 1
            otherwise
                SJOUT = SJOUT + 1
        endcase
        do case
            case YFL <= 0
                YF0 = YF0 + 1
            case YFL > 0 .and. YFL <= 50
                YF1 = YF1 + 1
            case YFL > 50 .and. YFL <= 100
                YF2 = YF2 + 1
            case YFL > 100 .and. YFL <= 150
                YF3 = YF3 + 1
            case YFL > 150 .and. YFL <= 200
                YF4 = YF4 + 1
            case YFL > 200 .and. YFL <= 250
                YF5 = YF5 + 1
            case YFL > 250 .and. YFL <= 300
                YF6 = YF6 + 1
            case YFL > 300 .and. YFL <= 350
                YF7 = YF7 + 1
            case YFL > 350 .and. YFL <= 400
                YF8 = YF8 + 1
            case YFL > 400 .and. YFL <= 450
                YF9 = YF9 + 1
            case YFL > 450 .and. YFL <= 500
                YF10 = YF10 + 1
            case YFL > 500 .and. YFL <= 550
                YF11 = YF11 + 1
            case YFL > 550 .and. YFL <= 600
                YF12 = YF12 + 1
            case YFL > 600 .and. YFL <= 650
                YF13 = YF13 + 1
            case YFL > 650 .and. YFL <= 700
                YF14 = YF14 + 1
```

```
case YFL > 700 .and. YFL <= 750
    YF15 = YF15 + 1
case YFL > 750 .and. YFL <= 800
    YF16 = YF16 + 1
case YFL > 800 .and. YFL <= 850
    YF17 = YF17 + 1
case YFL > 850 .and. YFL <= 900
    YF18 = YF18 + 1
case YFL > 900 .and. YFL <= 950
    YF19 = YF19 + 1
case YFL > 950 .and. YFL <= 1000
    YF20 = YF20 + 1
case YFL > 1000 .and. YFL <= 1050
    YF21 = YF21 + 1
case YFL > 1050 .and. YFL <= 1100
    YF22 = YF22 + 1
case YFL > 1100 .and. YFL <= 1150
    YF23 = YF23 + 1
case YFL > 1150 .and. YFL <= 1200
    YF24 = YF24 + 1
case YFL > 1200 .and. YFL <= 1250
    YF25 = YF25 + 1
case YFL > 1250 .and. YFL <= 1300
    YF26 = YF26 + 1
case YFL > 1300 .and. YFL <= 1350
    YF27 = YF27 + 1
case YFL > 1350 .and. YFL <= 1400
    YF28 = YF28 + 1
case YFL > 1400 .and. YFL <= 1450
    YF29 = YF29 + 1
case YFL > 1450 .and. YFL <= 1500
    YF30 = YF30 + 1
case YFL > 1500 .and. YFL <= 1550
    YF31 = YF31 + 1
case YFL > 1550 .and. YFL <= 1600
    YF32 = YF32 + 1
case YFL > 1600 .and. YFL <= 1650
    YF33 = YF33 + 1
case YFL > 1650 .and. YFL <= 1700
    YF34 = YF34 + 1
case YFL > 1700 .and. YFL <= 1750
    YF35 = YF35 + 1
case YFL > 1750 .and. YFL <= 1800
    YF36 = YF36 + 1
case YFL > 1800 .and. YFL <= 1850
    YF37 = YF37 + 1
case YFL > 1850 .and. YFL <= 1900
    YF38 = YF38 + 1
case YFL > 1900 .and. YFL <= 1950
    YF39 = YF39 + 1
case YFL > 1950 .and. YFL <= 2000
    YF40 = YF40 + 1
```

```
    otherwise
        YFOUT = YFOUT + 1
endcase
do case
    case BEL <= 0
        BE0 = BE0 + 1
    case BEL > 0 .and. BEL <= 50
        BE1 = BE1 + 1
    case BEL > 50 .and. BEL <= 100
        BE2 = BE2 + 1
    case BEL > 100 .and. BEL <= 150
        BE3 = BE3 + 1
    case BEL > 150 .and. BEL <= 200
        BE4 = BE4 + 1
    case BEL > 200 .and. BEL <= 250
        BE5 = BE5 + 1
    case BEL > 250 .and. BEL <= 300
        BE6 = BE6 + 1
    case BEL > 300 .and. BEL <= 350
        BE7 = BE7 + 1
    case BEL > 350 .and. BEL <= 400
        BE8 = BE8 + 1
    case BEL > 400 .and. BEL <= 450
        BE9 = BE9 + 1
    case BEL > 450 .and. BEL <= 500
        BE10 = BE10 + 1
    case BEL > 500 .and. BEL <= 550
        BE11 = BE11 + 1
    case BEL > 550 .and. BEL <= 600
        BE12 = BE12 + 1
    case BEL > 600 .and. BEL <= 650
        BE13 = BE13 + 1
    case BEL > 650 .and. BEL <= 700
        BE14 = BE14 + 1
    case BEL > 700 .and. BEL <= 750
        BE15 = BE15 + 1
    case BEL > 750 .and. BEL <= 800
        BE16 = BE16 + 1
    case BEL > 800 .and. BEL <= 850
        BE17 = BE17 + 1
    case BEL > 850 .and. BEL <= 900
        BE18 = BE18 + 1
    case BEL > 900 .and. BEL <= 950
        BE19 = BE19 + 1
    case BEL > 950 .and. BEL <= 1000
        BE20 = BE20 + 1
    case BEL > 1000 .and. BEL <= 1050
        BE21 = BE21 + 1
    case BEL > 1050 .and. BEL <= 1100
        BE22 = BE22 + 1
    case BEL > 1100 .and. BEL <= 1150
        BE23 = BE23 + 1
```

```
        case BEL > 1150 .and. BEL <= 1200
            BE24 = BE24 + 1
        case BEL > 1200 .and. BEL <= 1250
            BE25 = BE25 + 1
        case BEL > 1250 .and. BEL <= 1300
            BE26 = BE26 + 1
        case BEL > 1300 .and. BEL <= 1350
            BE27 = BE27 + 1
        case BEL > 1350 .and. BEL <= 1400
            BE28 = BE28 + 1
        case BEL > 1400 .and. BEL <= 1450
            BE29 = BE29 + 1
        case BEL > 1450 .and. BEL <= 1500
            BE30 = BE30 + 1
        case BEL > 1500 .and. BEL <= 1550
            BE31 = BE31 + 1
        case BEL > 1550 .and. BEL <= 1600
            BE32 = BE32 + 1
        case BEL > 1600 .and. BEL <= 1650
            BE33 = BE33 + 1
        case BEL > 1650 .and. BEL <= 1700
            BE34 = BE34 + 1
        case BEL > 1700 .and. BEL <= 1750
            BE35 = BE35 + 1
        case BEL > 1750 .and. BEL <= 1800
            BE36 = BE36 + 1
        case BEL > 1800 .and. BEL <= 1850
            BE37 = BE37 + 1
        case BEL > 1850 .and. BEL <= 1900
            BE38 = BE38 + 1
        case BEL > 1900 .and. BEL <= 1950
            BE39 = BE39 + 1
        case BEL > 1950 .and. BEL <= 2000
            BE40 = BE40 + 1
        case BEL > 2000 .and. BEL <= 2050
            BE41 = BE41 + 1
        case BEL > 2050 .and. BEL <= 2100
            BE42 = BE42 + 1
        otherwise
            BEOUT = BEOUT + 1
    endcase
    NCOUNT = NCOUNT - 1
    @ 3,50 say 'COUNTDOWN:'
    @ 3,60 say NCOUNT pict '99999'
  cont
enddo

@ 1,1 clear to 11,70
@ 13,1 clear to 13,70
@ 2,6 say "DO YOU WANT THE OUTPUT SENT TO THE " +;
          "PRINTER OR THE SCREEN? (P/S)"
@ 3,6 say '(WARNING : PRINTER MUST BE READY FOR OPTION P.)'
```

```
pr = " "
do while .not. pr$"PpSs"
    pr = " "
    @ 2,70 get pr
    read
enddo
if upper(pr) = "P"
    set device to print
    set device to print
    @ 2,20 say "PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA"
    do case
        case opt = '1'
            @ 5,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 5,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 5,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 5,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 5,6 say "ANNUAL REPORT    19"  + year
    endcase
        @ 5,50 say 'AREA: ' + AREA
        @ 8,6 say 'PARTITION (MM)        SKIPJACK      YELLOWFIN          BIGE
        @ 10,10 say '   0-  50  '
        @ 10,30 say SJ1 pict '99999'
        @ 10,45 say YF1 pict '99999'
        @ 10,60 say BE1 pict '99999'
        @ 11,10 say '  50- 100  '
        @ 11,30 say SJ2 pict '99999'
        @ 11,45 say YF2 pict '99999'
        @ 11,60 say BE2 pict '99999'
        @ 12,10 say ' 100- 150  '
        @ 12,30 say SJ3 pict '99999'
        @ 12,45 say YF3 pict '99999'
        @ 12,60 say BE3 pict '99999'
        @ 13,10 say ' 150- 200  '
        @ 13,30 say SJ4 pict '99999'
        @ 13,45 say YF4 pict '99999'
        @ 13,60 say BE4 pict '99999'
        @ 14,10 say ' 200- 250  '
        @ 14,30 say SJ5 pict '99999'
        @ 14,45 say YF5 pict '99999'
        @ 14,60 say BE5 pict '99999'
        @ 15,10 say ' 250- 300  '
        @ 15,30 say SJ6 pict '99999'
        @ 15,45 say YF6 pict '99999'
        @ 15,60 say BE6 pict '99999'
        @ 16,10 say ' 300- 350  '
        @ 16,30 say SJ7 pict '99999'
        @ 16,45 say YF7 pict '99999'
        @ 16,60 say BE7 pict '99999'
```

```
@ 17,10 say ' 350- 400  '
@ 17,30 say SJ8 pict '99999'
@ 17,45 say YF8 pict '99999'
@ 17,60 say BE8 pict '99999'
@ 18,10 say ' 400- 450  '
@ 18,30 say SJ9 pict '99999'
@ 18,45 say YF9 pict '99999'
@ 18,60 say BE9 pict '99999'
@ 19,10 say ' 450- 500  '
@ 19,30 say SJ10 pict '99999'
@ 19,45 say YF10 pict '99999'
@ 19,60 say BE10 pict '99999'
@ 20,10 say ' 500- 550  '
@ 20,30 say SJ11 pict '99999'
@ 20,45 say YF11 pict '99999'
@ 20,60 say BE11 pict '99999'
@ 21,10 say ' 550- 600  '
@ 21,30 say SJ12 pict '99999'
@ 21,45 say YF12 pict '99999'
@ 21,60 say BE12 pict '99999'
@ 22,10 say ' 600- 650  '
@ 22,30 say SJ13 pict '99999'
@ 22,45 say YF13 pict '99999'
@ 22,60 say BE13 pict '99999'
@ 23,10 say ' 650- 700  '
@ 23,30 say SJ14 pict '99999'
@ 23,45 say YF14 pict '99999'
@ 23,60 say BE14 pict '99999'
@ 24,10 say ' 700- 750  '
@ 24,30 say SJ15 pict '99999'
@ 24,45 say YF15 pict '99999'
@ 24,60 say BE15 pict '99999'
@ 25,10 say ' 750- 800  '
@ 25,30 say SJ16 pict '99999'
@ 25,45 say YF16 pict '99999'
@ 25,60 say BE16 pict '99999'
@ 26,10 say ' 800- 850  '
@ 26,30 say SJ17 pict '99999'
@ 26,45 say YF17 pict '99999'
@ 26,60 say BE17 pict '99999'
@ 27,10 say ' 850- 900  '
@ 27,30 say SJ18 pict '99999'
@ 27,45 say YF18 pict '99999'
@ 27,60 say BE18 pict '99999'
@ 28,10 say ' 900- 950  '
@ 28,30 say SJ19 pict '99999'
@ 28,45 say YF19 pict '99999'
@ 28,60 say BE19 pict '99999'
@ 29,10 say ' 950-1000 '
@ 29,30 say SJ20 pict '99999'
@ 29,45 say YF20 pict '99999'
@ 29,60 say BE20 pict '99999'
```

```
         @ 30,10 say '1000-1050  '
         @ 30,30 say SJ21 pict '99999'
         @ 30,45 say YF21 pict '99999'
         @ 30,60 say BE21 pict '99999'
         @ 31,10 say '1050-1100  '
         @ 31,30 say SJ22 pict '99999'
         @ 31,45 say YF22 pict '99999'
         @ 31,60 say BE22 pict '99999'
         @ 32,10 say '1100-1150  '
         @ 32,30 say SJ23 pict '99999'
         @ 32,45 say YF23 pict '99999'
         @ 32,60 say BE23 pict '99999'
         @ 33,10 say '1150-1200  '
         @ 33,30 say SJ24 pict '99999'
         @ 33,45 say YF24 pict '99999'
         @ 33,60 say BE24 pict '99999'
         @ 34,10 say '1200-1250  '
*         @ 34,30 say SJ25 pict '99999'
         @ 34,30 say '/////'
         @ 34,45 say YF25 pict '99999'
         @ 34,60 say BE25 pict '99999'
         @ 35,10 say '1250-1300  '
*         @ 35,30 say SJ26 pict '99999'
         @ 35,45 say YF26 pict '99999'
         @ 35,60 say BE26 pict '99999'
         @ 36,10 say '1300-1350  '
*         @ 36,30 say SJ27 pict '99999'
         @ 36,45 say YF27 pict '99999'
         @ 36,60 say BE27 pict '99999'
         @ 37,10 say '1350-1400  '
*         @ 37,30 say SJ28 pict '99999'
         @ 37,45 say YF28 pict '99999'
         @ 37,60 say BE28 pict '99999'
         @ 38,10 say '1400-1450  '
*         @ 38,30 say SJ29 pict '99999'
         @ 38,45 say YF29 pict '99999'
         @ 38,60 say BE29 pict '99999'
         @ 39,10 say '1450-1500  '
*         @ 39,30 say SJ30 pict '99999'
         @ 39,45 say YF30 pict '99999'
         @ 39,60 say BE30 pict '99999'
         @ 40,10 say '1500-1550  '
*         @ 40,30 say SJ31 pict '99999'
         @ 40,45 say YF31 pict '99999'
         @ 40,60 say BE31 pict '99999'
         @ 41,10 say '1550-1600  '
*         @ 41,30 say SJ32 pict '99999'
         @ 41,45 say YF32 pict '99999'
         @ 41,60 say BE32 pict '99999'
         @ 42,10 say '1600-1650  '
*         @ 42,30 say SJ33 pict '99999'
         @ 42,45 say YF33 pict '99999'
```

```
         @ 42,60 say BE33 pict '99999'
         @ 43,10 say '1650-1700  '
*         @ 43,30 say SJ34 pict '99999'
         @ 43,45 say YF34 pict '99999'
         @ 43,60 say BE34 pict '99999'
         @ 44,10 say '1700-1750  '
*         @ 44,30 say SJ35 pict '99999'
         @ 44,45 say YF35 pict '99999'
         @ 44,60 say BE35 pict '99999'
         @ 45,10 say '1750-1800  '
*         @ 45,30 say SJ36 pict '99999'
         @ 45,45 say YF36 pict '99999'
         @ 45,60 say BE36 pict '99999'
         @ 46,10 say '1800-1850  '
*         @ 46,30 say SJ37 pict '99999'
         @ 46,45 say YF37 pict '99999'
         @ 46,60 say BE37 pict '99999'
         @ 47,10 say '1850-1900  '
*         @ 47,30 say SJ38 pict '99999'
         @ 47,45 say YF38 pict '99999'
         @ 47,60 say BE38 pict '99999'
         @ 48,10 say '1900-1950  '
*         @ 48,30 say SJ39 pict '99999'
         @ 48,45 say YF39 pict '99999'
         @ 48,60 say BE39 pict '99999'
         @ 49,10 say '1950-2000  '
*         @ 49,30 say SJ40 pict '99999'
         @ 49,45 say YF40 pict '99999'
         @ 49,60 say BE40 pict '99999'
         @ 50,10 say '2000-2050  '
*         @ 50,30 say SJ41 pict '99999'
*         @ 50,45 say YF41 pict '99999'
         @ 50,45 say '/////'
         @ 50,60 say BE41 pict '99999'
         @ 51,10 say '2050-2100  '
*         @ 51,30 say SJ42 pict '99999'
*         @ 51,45 say YF42 pict '99999'
         @ 51,60 say BE42 pict '99999'
*         @ 52,10 say '2100-2150  '
*         @ 52,30 say SJ43 pict '99999'
*         @ 52,45 say YF43 pict '99999'
*         @ 52,60 say BE43 pict '99999'
         @ 53,10 say ' OUTSIDE '
         @ 53,30 say SJOUT pict '99999'
         @ 53,45 say YFOUT pict '99999'
         @ 53,60 say BEOUT pict '99999'
         @ 54,10 say '  RANGE  '
         @ 56,10 say '  TOTAL'
         @ 56,30 say NSSJ pict '99999'
         @ 56,45 say NSYF pict '99999'
         @ 56,60 say NSBE pict '99999'
         @ 58,10 say chr(12)
```

```
   set device to screen
else
    @ 14,10 say "PURSE SEINE LENGTH-FREQUENCY HISTOGRAM REPORT BY AREA"
    do case
        case opt = '1'
            @ 15,6 say "JANUARY-MARCH  19"  + year
        case opt = '2'
            @ 15,6 say "APRIL-JUNE  19"  + year
        case opt = '3'
            @ 15,6 say "JULY-SEPTEMBER  19"  + year
        case opt = '4'
            @ 15,6 say "OCTOBER-DECEMBER  19"  + year
        case opt = '5'
            @ 15,6 say "ANNUAL REPORT    19"  + year
    endcase
        @ 15,50 say 'AREA: ' + AREA
        @ 16,8 say 'PARTITION (MM)        SKIPJACK      YELLOWFIN        BIGEY
        @ 18,10 say '   0-  50  '
        @ 18,30 say SJ1 pict '99999'
        @ 18,45 say YF1 pict '99999'
        @ 18,60 say BE1 pict '99999'
        @ 19,10 say '  50- 100  '
        @ 19,30 say SJ2 pict '99999'
        @ 19,45 say YF2 pict '99999'
        @ 19,60 say BE2 pict '99999'
        @ 20,10 say ' 100- 150  '
        @ 20,30 say SJ3 pict '99999'
        @ 20,45 say YF3 pict '99999'
        @ 20,60 say BE3 pict '99999'
        @ 21,10 say ' 150- 200  '
        @ 21,30 say SJ4 pict '99999'
        @ 21,45 say YF4 pict '99999'
        @ 21,60 say BE4 pict '99999'
        @ 22,10 say ' 200- 250  '
        @ 22,30 say SJ5 pict '99999'
        @ 22,45 say YF5 pict '99999'
        @ 22,60 say BE5 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say ' 250- 300  '
        @ 18,30 say SJ6 pict '99999'
        @ 18,45 say YF6 pict '99999'
        @ 18,60 say BE6 pict '99999'
        @ 19,10 say ' 300- 350  '
        @ 19,30 say SJ7 pict '99999'
        @ 19,45 say YF7 pict '99999'
        @ 19,60 say BE7 pict '99999'
        @ 20,10 say ' 350- 400  '
        @ 20,30 say SJ8 pict '99999'
```

```
        @ 20,45 say YF8 pict '99999'
        @ 20,60 say BE8 pict '99999'
        @ 21,10 say ' 400- 450  '
        @ 21,30 say SJ9 pict '99999'
        @ 21,45 say YF9 pict '99999'
        @ 21,60 say BE9 pict '99999'
        @ 22,10 say ' 450- 500  '
        @ 22,30 say SJ10 pict '99999'
        @ 22,45 say YF10 pict '99999'
        @ 22,60 say BE10 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say ' 500- 550  '
        @ 18,30 say SJ11 pict '99999'
        @ 18,45 say YF11 pict '99999'
        @ 18,60 say BE11 pict '99999'
        @ 19,10 say ' 550- 600  '
        @ 19,30 say SJ12 pict '99999'
        @ 19,45 say YF12 pict '99999'
        @ 19,60 say BE12 pict '99999'
        @ 20,10 say ' 600- 650  '
        @ 20,30 say SJ13 pict '99999'
        @ 20,45 say YF13 pict '99999'
        @ 20,60 say BE13 pict '99999'
        @ 21,10 say ' 650- 700  '
        @ 21,30 say SJ14 pict '99999'
        @ 21,45 say YF14 pict '99999'
        @ 21,60 say BE14 pict '99999'
        @ 22,10 say ' 700- 750  '
        @ 22,30 say SJ15 pict '99999'
        @ 22,45 say YF15 pict '99999'
        @ 22,60 say BE15 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say ' 750- 800  '
        @ 18,30 say SJ16 pict '99999'
        @ 18,45 say YF16 pict '99999'
        @ 18,60 say BE16 pict '99999'
        @ 19,10 say ' 800- 850  '
        @ 19,30 say SJ17 pict '99999'
        @ 19,45 say YF17 pict '99999'
        @ 19,60 say BE17 pict '99999'
        @ 20,10 say ' 850- 900  '
        @ 20,30 say SJ18 pict '99999'
        @ 20,45 say YF18 pict '99999'
        @ 20,60 say BE18 pict '99999'
```

```
        @ 21,10 say ' 900- 950  '
        @ 21,30 say SJ19 pict '99999'
        @ 21,45 say YF19 pict '99999'
        @ 21,60 say BE19 pict '99999'
        @ 22,10 say ' 950-1000 '
        @ 22,30 say SJ20 pict '99999'
        @ 22,45 say YF20 pict '99999'
        @ 22,60 say BE20 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say '1000-1050  '
        @ 18,30 say SJ21 pict '99999'
        @ 18,45 say YF21 pict '99999'
        @ 18,60 say BE21 pict '99999'
        @ 19,10 say '1050-1100  '
        @ 19,30 say SJ22 pict '99999'
        @ 19,45 say YF22 pict '99999'
        @ 19,60 say BE22 pict '99999'
        @ 20,10 say '1100-1150  '
        @ 20,30 say SJ23 pict '99999'
        @ 20,45 say YF23 pict '99999'
        @ 20,60 say BE23 pict '99999'
        @ 21,10 say '1150-1200  '
        @ 21,30 say SJ24 pict '99999'
        @ 21,45 say YF24 pict '99999'
        @ 21,60 say BE24 pict '99999'
        @ 22,10 say '1200-1250  '
*        @ 22,30 say SJ25 pict '99999'
        @ 22,30 say '/////'
        @ 22,45 say YF25 pict '99999'
        @ 22,60 say BE25 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say '1250-1300  '
*        @ 18,30 say SJ26 pict '99999'
        @ 18,45 say YF26 pict '99999'
        @ 18,60 say BE26 pict '99999'
        @ 19,10 say '1300-1350  '
*        @ 19,30 say SJ27 pict '99999'
        @ 19,45 say YF27 pict '99999'
        @ 19,60 say BE27 pict '99999'
        @ 20,10 say '1350-1400  '
*        @ 20,30 say SJ28 pict '99999'
        @ 20,45 say YF28 pict '99999'
        @ 20,60 say BE28 pict '99999'
        @ 21,10 say '1400-1450  '
```

```
*        @ 21,30 say SJ29 pict '99999'
         @ 21,45 say YF29 pict '99999'
         @ 21,60 say BE29 pict '99999'
         @ 22,10 say '1450-1500  '
*        @ 22,30 say SJ30 pict '99999'
         @ 22,45 say YF30 pict '99999'
         @ 22,60 say BE30 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
         @ 18,10 say '1500-1550  '
*        @ 18,30 say SJ31 pict '99999'
         @ 18,45 say YF31 pict '99999'
         @ 18,60 say BE31 pict '99999'
         @ 19,10 say '1550-1600  '
*        @ 19,30 say SJ32 pict '99999'
         @ 19,45 say YF32 pict '99999'
         @ 19,60 say BE32 pict '99999'
         @ 20,10 say '1600-1650  '
*        @ 20,30 say SJ33 pict '99999'
         @ 20,45 say YF33 pict '99999'
         @ 20,60 say BE33 pict '99999'
         @ 21,10 say '1650-1700  '
*        @ 21,30 say SJ34 pict '99999'
         @ 21,45 say YF34 pict '99999'
         @ 21,60 say BE34 pict '99999'
         @ 22,10 say '1700-1750  '
*        @ 22,30 say SJ35 pict '99999'
         @ 22,45 say YF35 pict '99999'
         @ 22,60 say BE35 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
         @ 18,10 say '1750-1800  '
*        @ 18,30 say SJ36 pict '99999'
         @ 18,45 say YF36 pict '99999'
         @ 18,60 say BE36 pict '99999'
         @ 19,10 say '1800-1850  '
*        @ 19,30 say SJ37 pict '99999'
         @ 19,45 say YF37 pict '99999'
         @ 19,60 say BE37 pict '99999'
         @ 20,10 say '1850-1900  '
*        @ 20,30 say SJ38 pict '99999'
         @ 20,45 say YF38 pict '99999'
         @ 20,60 say BE38 pict '99999'
         @ 21,10 say '1900-1950  '
*        @ 21,30 say SJ39 pict '99999'
         @ 21,45 say YF39 pict '99999'
         @ 21,60 say BE39 pict '99999'
```

```
        @ 22,10 say '1950-2000  '
*        @ 22,30 say SJ40 pict '99999'
        @ 22,45 say YF40 pict '99999'
        @ 22,60 say BE40 pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 18,10 say '2000-2050  '
*        @ 18,30 say SJ41 pict '99999'
*        @ 18,45 say YF41 pict '99999'
        @ 18,45 say '/////'
        @ 18,60 say BE41 pict '99999'
        @ 19,10 say '2050-2100  '
*        @ 19,30 say SJ42 pict '99999'
*        @ 19,45 say YF42 pict '99999'
        @ 19,60 say BE42 pict '99999'
*        @ 20,10 say '2100-2150  '
*        @ 20,30 say SJ43 pict '99999'
*        @ 20,45 say YF43 pict '99999'
*        @ 20,60 say BE43 pict '99999'
        @ 21,10 say ' OUTSIDE '
        @ 21,30 say SJOUT pict '99999'
        @ 21,45 say YFOUT pict '99999'
        @ 21,60 say BEOUT pict '99999'
        @ 22,10 say '  RANGE  '
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 18,1 clear to 22,78
        @ 20,10 say '  TOTAL'
        @ 20,30 say NSSJ pict '99999'
        @ 20,45 say NSYF pict '99999'
        @ 20,60 say NSBE pict '99999'
@ 10,10 say 'PRESS ANY KEY TO CONTINUE'
set cons off
wait
set cons on
@ 13,1 clear to 23,78
@ 10,10 clear to 10,50
endif
    @ 2,6 clear to 3,70
    IAREA = IAREA + 1
  enddo
enddo
erase pslfl.dbf
use pslf
dele all
pack
clear
return
```

APPENDIX B

```
c*********************************************************************
c PROGRAM: LONGLINE                                                   *
c VERSION: 1.01                                                       *
c DATE: 12-87                                                         *
c                                                                     *
c REV HISTORY:                                                        *
c                                                                     *
c 1.01  12-87  FORMAT NUMBER 120 CHANGED FROM:                        *
c              120 format(41x,3i2,1x,i4,a1,i5,a1,3x,i4,10i3,24x)      *
c              TO:                                                    *
c              120 format(41x,3i2,1x,i4,a1,i5,a1,3x,i4,i3,3x,7i3,     *
c              3x,2i3,18x)                                            *
c                                                                     *
c              CHANGE REQUIRED TO CORRECT ERROR IN READ FORMAT. R.I.U. *
C 1.00   7-87  INITIAL VERSION  J.F.                                  *
c*********************************************************************
c NOTE: SOURCE CODE MUST BE COMPILED USING THE /4Nt METACOMMAND TO     *
c       ALLOW FOR EIGHT CHARACTER VARIABLE NAMES.  MS FORTRAN V.4.0    *
c       WILL SUPPORT ONLY SIX CHARACTER NAMES OTHERWISE AND THE        *
c       RESULTS WILL BE UNPREDICTABLE.  EXAMPLE:                      *
c                    fl /4Nt EXAMPLE.FOR                              *
c*********************************************************************
c Allocate array for sXs squares over the region (100W-130E, 50N-55S), *
c for effort and t (up to ten) species.                               *
c This version is for s = 5 degrees and t = 10 species.               *
c*********************************************************************
      Integer tunarray(21,26,11)
      Real cearray(21,26,10)
c*********************************************************************
c Set up integer variables for set date, location, number of hooks, and*
c specie data. (Varibles for all 10 species included for future use.)  *
c*********************************************************************
      Integer ds,ms,ys,lat,long,nh,al,yf,be,bf,sj,bm,sm,bb,sf,wa
c*********************************************************************
c Set up character variables for file names and lat-long directions.   *
c*********************************************************************
      Character latd,longd,fname1*24,fname2*24,outarray*12
      Character ofname*8,ofname0*12,ofname1*12,ofname2*12,ofname3*12,
     *ofname4*12,ofname5*12,ofname6*12,ofname7*12,ofname8*12,ofname9*12,
     *ofnamea*12
      Common ofname,ofname0,ofname1,ofname2,ofname3,ofname4,ofname5,
     *ofname6,ofname7,ofname8,ofname9,ofnamea
c*********************************************************************
c Output weighting factors for each species                           *
c*********************************************************************
      Data wa1/100./,wyf/1000./,wbe/100./,wbf/100./,wsj/10000./,
     *wbm/1000./,wsm/1000./,wbb/1000./,wsf/10000./,wwa/10000./
c*********************************************************************
c Opening banner and file prompt                                      *
c*********************************************************************
      write(*,100)
      write(*,101)
```

```
      write(*,102)
      write(*,103)
      write(*,104)
c*************************************************************************
  100 format(30x,'NOAA / NMFS'/)
  101 format(1x,'SAMOAN LONGLINE CATCH/EFFORT REPORT GENERATOR'//)
  102 format(1x,'ENTER NAME OF FILE TO BE PROCESSED - ')
  103 format(1x,'(SPECIFY COMPLETE NAME, INCLUDING DRIVE AND DOS PATH)')
  104 format(10x,'ENTER NAME:'*)
  106 format(10x,'ENTER OUTPUT FILENAME (UP TO 8 CHARACTERS) :')
c*************************************************************************
      read(*,110) FNAME1
  110 format(A)
      open(unit=3,file=FNAME1,rec1=120)
c*************************************************************************
c The following routine initializes the tunarray.                       *
c*************************************************************************
      do 10 k=1,11
        do 10 i=1,21
          do 10 j=1,26
      tunarray(i,j,k)=0
   10 continue
      do 12 k=1,10
        do 12 i=1,21
          do 12 j=1,26
      cearray(i,j,k)=0.0
   12 continue
c*************************************************************************
c Prompt user for report option.                                        *
c*************************************************************************
      write(*,106)
      read(*,110) ofname
      call quarter(mq1,mq2)
      open(unit=4,file=ofnamea,rec1=110)
      open(unit=10,file=ofname0,rec1=30)
      open(unit=11,file=ofname1,rec1=30)
      open(unit=12,file=ofname2,rec1=30)
      open(unit=13,file=ofname3,rec1=30)
      open(unit=14,file=ofname4,rec1=30)
      open(unit=15,file=ofname5,rec1=30)
      open(unit=16,file=ofname6,rec1=30)
      open(unit=17,file=ofname7,rec1=30)
      open(unit=18,file=ofname8,rec1=30)
      open(unit=19,file=ofname9,rec1=30)
c*************************************************************************
c Input from external file and load array                               *
c*************************************************************************
   20 read(3,120,end=21) ds,ms,ys,lat,latd,long,longd,nh,al,yf,be,bf,
     *sj,bm,sm,bb,sf,wa
        if ((ms .ge. mq1) .and. (ms .le. mq2)) then
          call index(lat,latd,long,longd,i,j)
          tunarray(i,j,1) = tunarray(i,j,1) + nh
```

```
          tunarray(i,j,2) = tunarray(i,j,2) + al
          tunarray(i,j,3) = tunarray(i,j,3) + yf
          tunarray(i,j,4) = tunarray(i,j,4) + be
          tunarray(i,j,5) = tunarray(i,j,5) + bf
          tunarray(i,j,6) = tunarray(i,j,6) + sj
          tunarray(i,j,7) = tunarray(i,j,7) + bm
          tunarray(i,j,8) = tunarray(i,j,8) + sm
          tunarray(i,j,9) = tunarray(i,j,9) + bb
          tunarray(i,j,10) = tunarray(i,j,10) + sf
          tunarray(i,j,11) = tunarray(i,j,11) + wa
        endif
      goto 20
   21 write(*,*) 'END OF FILE'
  120 format(41x,3i2,1x,i4,a1,i5,a1,3x,i4,i3,3x,7i3,3x,2i3,18x)
c*************************************************************************
      write(10,251)
      write(11,251)
      write(12,251)
      write(13,251)
      write(14,251)
      write(15,251)
      write(16,251)
      write(17,251)
      write(18,251)
      write(19,251)
      do 30 i=1,21
        do 30 j=1,26
          if (tunarray(i,j,1).ne.0) then
            alat=5.0*(10-i)+2.5
            along=5.0*(46-j)+2.5
            cearray(i,j,1)=wal*tunarray(i,j,2)/tunarray(i,j,1)
            write(10,250) alat,along,cearray(i,j,1)
            cearray(i,j,2)=wyf*tunarray(i,j,3)/tunarray(i,j,1)
            write(11,250) alat,along,cearray(i,j,2)
            cearray(i,j,3)=wbe*tunarray(i,j,4)/tunarray(i,j,1)
            write(12,250) alat,along,cearray(i,j,3)
            cearray(i,j,4)=wbf*tunarray(i,j,5)/tunarray(i,j,1)
            write(13,250) alat,along,cearray(i,j,4)
            cearray(i,j,5)=wsj*tunarray(i,j,6)/tunarray(i,j,1)
            write(14,250) alat,along,cearray(i,j,5)
            cearray(i,j,6)=wbm*tunarray(i,j,7)/tunarray(i,j,1)
            write(15,250) alat,along,cearray(i,j,6)
            cearray(i,j,7)=wsm*tunarray(i,j,8)/tunarray(i,j,1)
            write(16,250) alat,along,cearray(i,j,7)
            cearray(i,j,8)=wbb*tunarray(i,j,9)/tunarray(i,j,1)
            write(17,250) alat,along,cearray(i,j,8)
            cearray(i,j,9)=wsf*tunarray(i,j,10)/tunarray(i,j,1)
            write(18,250) alat,along,cearray(i,j,9)
            cearray(i,j,10)=wwa*tunarray(i,j,11)/tunarray(i,j,1)
            write(19,250) alat,along,cearray(i,j,10)
        endif
   30 continue
```

```
c*********************************************************************
      write(4,230) fname1,mq1,mq2
      write(4,231)
      write(4,210) (i,(tunarray(i,j,1),j=1,26),i=1,21)
      write(4,232) wal
      write(4,210) (i,(tunarray(i,j,2),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,1),j=1,26),i=1,21)
      write(4,233) wyf
      write(4,210) (i,(tunarray(i,j,3),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,2),j=1,26),i=1,21)
      write(4,234) wbe
      write(4,210) (i,(tunarray(i,j,4),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,3),j=1,26),i=1,21)
      write(4,235) wbf
      write(4,210) (i,(tunarray(i,j,5),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,4),j=1,26),i=1,21)
      write(4,236) wsj
      write(4,210) (i,(tunarray(i,j,6),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,5),j=1,26),i=1,21)
      write(4,237) wbm
      write(4,210) (i,(tunarray(i,j,7),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,6),j=1,26),i=1,21)
      write(4,238) wsm
      write(4,210) (i,(tunarray(i,j,8),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,7),j=1,26),i=1,21)
      write(4,239) wbb
      write(4,210) (i,(tunarray(i,j,9),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,8),j=1,26),i=1,21)
      write(4,240) wsf
      write(4,210) (i,(tunarray(i,j,10),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,9),j=1,26),i=1,21)
      write(4,241) wwa
      write(4,210) (i,(tunarray(i,j,11),j=1,26),i=1,21)
      write(4,220) (i,(cearray(i,j,10),j=1,26),i=1,21)
c*********************************************************************
  200 format(1x,4i10/)
  210 format(4x,i2,13i8/6x,13i8/)
  220 format(4x,i2,13f8.2/6x,13f8.2/)
  230 format(10x,'Output Array for ',A24,' covering the monthly range:',
     *i3,' - ',i3//)
  231 format(6x,'Number of Hooks Set:'/)
  232 format(6x,'Albacore          WT = ',F10.1/)
  233 format(6x,'Yellow Fin        WT = ',F10.1/)
  234 format(6x,'Big Eye           WT = ',F10.1/)
  235 format(6x,'Blue Fin          WT = ',F10.1/)
  236 format(6x,'Skipjack          WT = ',F10.1/)
  237 format(6x,'Blue Marlin       WT = ',F10.1/)
  238 format(6x,'Stripped Marlin   WT = ',F10.1/)
  239 format(6x,'Black Marlin      WT = ',F10.1/)
  240 format(6x,'Sailfish          WT = ',F10.1/)
  241 format(6x,'Wahoo             WT = ',F10.1/)
  250 format(3f10.2)
```

```
  251 format('     -55.0      50.0'/'     100.0     230.0')
c*********************************************************************
      stop
      end
c*********************************************************************
c*****************************SUBROUTINE******************************
c*********************************************************************
      Subroutine Quarter(mq1,mq2)
      character opt
      Character ofname*8,ofname0*12,ofname1*12,ofname2*12,ofname3*12,
     *ofname4*12,ofname5*12,ofname6*12,ofname7*12,ofname8*12,ofname9*12,
     *ofnamea*12
      Common ofname,ofname0,ofname1,ofname2,ofname3,ofname4,ofname5,
     *ofname6,ofname7,ofname8,ofname9,ofnamea
c*********************************************************************
   10 write(*,100)
      write(*,108)
      write(*,110)
      write(*,101)
      write(*,110)
      write(*,102)
      write(*,110)
      write(*,103)
      write(*,110)
      write(*,104)
      write(*,110)
      write(*,105)
      write(*,110)
      write(*,106)
      write(*,110)
      write(*,107)
      write(*,110)
      write(*,108)
c*********************************************************************
      read(*,109) opt
      if (opt.eq.'1') then
        mq1=1
        mq2=3
        ofname0=ofname//'.1a1'
        ofname1=ofname//'.1yf'
        ofname2=ofname//'.1be'
        ofname3=ofname//'.1bf'
        ofname4=ofname//'.1sj'
        ofname5=ofname//'.1bm'
        ofname6=ofname//'.1sm'
        ofname7=ofname//'.1bb'
        ofname8=ofname//'.1sf'
        ofname9=ofname//'.1wa'
        ofnamea=ofname//'.1ay'
      elseif (opt.eq.'2') then
        mq1=4
        mq2=6
```

```
      ofname0=ofname//'.2al'
      ofname1=ofname//'.2yf'
      ofname2=ofname//'.2be'
      ofname3=ofname//'.2bf'
      ofname4=ofname//'.2sj'
      ofname5=ofname//'.2bm'
      ofname6=ofname//'.2sm'
      ofname7=ofname//'.2bb'
      ofname8=ofname//'.2sf'
      ofname9=ofname//'.2wa'
      ofnamea=ofname//'.2ay'
    elseif (opt.eq.'3') then
      mq1=7
      mq2=9
      ofname0=ofname//'.3al'
      ofname1=ofname//'.3yf'
      ofname2=ofname//'.3be'
      ofname3=ofname//'.3bf'
      ofname4=ofname//'.3sj'
      ofname5=ofname//'.3bm'
      ofname6=ofname//'.3sm'
      ofname7=ofname//'.3bb'
      ofname8=ofname//'.3sf'
      ofname9=ofname//'.3wa'
      ofnamea=ofname//'.3ay'
    elseif (opt.eq.'4') then
      mq1=10
      mq2=12
      ofname0=ofname//'.4al'
      ofname1=ofname//'.4yf'
      ofname2=ofname//'.4be'
      ofname3=ofname//'.4bf'
      ofname4=ofname//'.4sj'
      ofname5=ofname//'.4bm'
      ofname6=ofname//'.4sm'
      ofname7=ofname//'.4bb'
      ofname8=ofname//'.4sf'
      ofname9=ofname//'.4wa'
      ofnamea=ofname//'.4ay'
    elseif (opt.eq.'5') then
      mq1=1
      mq2=12
      ofname0=ofname//'.aal'
      ofname1=ofname//'.ayf'
      ofname2=ofname//'.abe'
      ofname3=ofname//'.abf'
      ofname4=ofname//'.asj'
      ofname5=ofname//'.abm'
      ofname6=ofname//'.asm'
      ofname7=ofname//'.abb'
      ofname8=ofname//'.asf'
      ofname9=ofname//'.awa'
```

```
        ofnamea=ofname//'.aay'
      else
        write(*,112)
        goto 10
      endif
      write(*,111) mq1,mq2
c*************************************************************************
  100 format(1x///)
  101 format(16x,'*          REPORT OPTIONS :                          *')
  102 format(16x,'*          (1) JANUARY - MARCH                       *')
  103 format(16x,'*          (2) APRIL - JUNE                          *')
  104 format(16x,'*          (3) JULY - SEPTEMBER                      *')
  105 format(16x,'*          (4) OCTOBER - DECEMBER                    *')
  106 format(16x,'*          (5) ANNUAL REPORT                         *')
  107 format(16x,'*          SELECT OPTION NUMBER + RETURN :           *')
  108 format(16x,'*****************************************************')
  109 format(a)
  110 format(16x,'*                                                    *')
  111 format(26x,'mq1 = ',i2,'   mq2 = ',i2/)
  112 format(1x,/'     ((( AVAILABLE OPTIONS ARE 1,2,3,4,5 )))')
c*************************************************************************
      return
      end
c*************************************************************************
c*****************************SUBROUTINE**********************************
c*************************************************************************
      Subroutine Index(lat,latd,long,longd,i,j)
      character latd,longd
c*************************************************************************
c //// Determine i-index from latitude ////                              *
c*************************************************************************
      if (latd.eq.'N') then
        i = 10-lat/500
        if (i.eq.0) then i = 1
      else
        i = 11 + lat/500
        if (i.eq.22) then i = 21
      endif
c*************************************************************************
c //// Determine j-index from longitude ////                             *
c*************************************************************************
      if (longd.eq.'E') then
        j = long/500 - 25
        if (j.eq.0) then j = 1
      else
        j = 46 - long/500
        if (j.eq.27) then j = 26
      endif
      return
      end
c*************************************************************************
```